

SOUTHERN TEXTILE BULLETIN

VOL. I

CHARLOTTE, N. C., JULY 6, 1911

NUMBER 19

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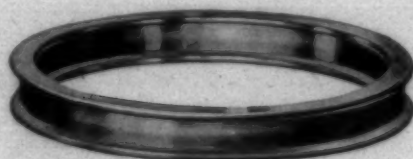
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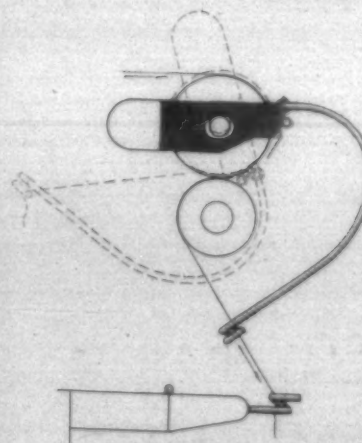
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The Opening and Cleaning of Cotton

By J. E. Cheesman before Southern
Textile Association

VERY little attention has been given during the past decade to the existing evils in the Opening and Cleaning of cotton. The attention of the cotton mills has been almost entirely devoted to the finishing processes of the business. Today with the high price of cotton we find a reversal of attention, the coming back to raw cotton in the bale as received in the mill and how best to treat the same without lessening its intrinsic value.

When one studies carefully the history of cotton in its initial treat-

ever known the harshness of a mechanical blow, the sharp cut of a saw tooth, before the day of gin systems, presses and compresses, even with the birth of the first cotton mill, we find the lint cotton carefully handled and placed upon a table, crudely constructed, from three to six feet square, or oblong. Across the face or top were strong light cards or ropes, interlacing each other about an inch apart and on top of this network was placed from half to a pound of cotton. The operator then gently beat the cotton with willow rods until the dust and dirt was removed.

The air inflated the separated fibres, causing them to blow and bringing them to a more perfect condition for carding and combing. This process, being the first treatment of cotton by the mill, was called "batting." We now call it "picking."

These batting tables were kept in the cottages and sheds adjoining the cotton mill and women and children were paid by piece work or according to the number of pounds done in a day's work.

The results of this system were perfectly satisfactory, and many mills continued this process even after the birth of the bale breaker and picker opener. No method equal to this "batting" principle, with its delicate action upon the cotton and freedom from injury, has ever been invented or introduced, having a commercial capacity, until this year 1911, competition produced by the extraordinary growth in cotton mills killed the "batting" method as it was too expensive in comparison with power driven machines of much greater capacity.

With the passing out of "batting" and its many virtues, came a new problem in the cotton mills, the problem of an increase in the broken and damaged fibres as shown in the waste account of the mills.

Following the hand treatment in batting came in rather quick succession the mechanical whipper, many of you are familiar with, having two shafts with iron fingers six inches long, running in the same direction, being housed in an iron frame, part of which had stationery

fingers. The speed of these beaters one 1,800 R. P. M., and the other 1,000 R. P. M., tore apart and beat the cotton into small fragments.

The capacity was 400 pounds in one and a half hours.

Then we find that many mills used the Cone Willow Machine, and from that to many other different mechanical means of cleaning and opening cotton. The aim being to increase production, **the effect being mere broken fibres.**

Mill men differ in their opinions as to the best bale breaker, opener and kind of beater for use in their cotton mills. They also differ as to how many beatings cotton should be subjected to. Some claim that the beaters if properly run, and there again arises a question, will not damage the cotton at all. We find, however, that the history of this branch of the cotton industry shows a gradual elimination of cotton beaters and a general demand for a new way of opening. The beaters during the past 30 years have been reduced from 6 to 3 in the mills of today. This does not always mean less injury to the cotton.

High speed on 3 beaters will cause more damage than **low speed** on 6 beaters, and in the fine goods mill, using long cotton, even 2 beaters is considered the better practice. In England more time is consumed in the treatment of cotton from bale to and through the pickers. In America the habit or custom seems to be "rush it through as quick as possible." In my judgment the two most dangerous machines in the cotton mill, is the present type of bale breaker, used largely in the North, and the **rapidly** running beaters of the opener and picker. Why is it necessary to have these machines? The answer is simple. We all agree. It is this: To put the cotton back as near as possible to its condition before entering the bale and in so doing clean it of its foreign matter and put it in lap form.

If cotton could be delivered at the mill in the same light fluffy condition that it leaves the gin the problem of preparing it for the cards would be simplified and the cotton be less injured in its travel to the cards. The matted condition of the cotton as coming from the bale must be broken up, torn apart,

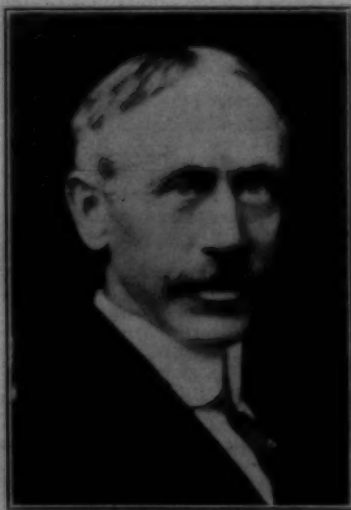
opened and cleaned before it can be worked successfully.

While I am not to discuss the mixing of cotton and do not profess to know much about it, still it is so closely allied to the opening process as to call for brief mention. My general observation has been that in the opening and mixing room any kind of labor has been employed, the cheaper the better, unskilled labor and in many instances men who could not read the English language. Here in the initial treatment of the cotton where care should be exercised in having the cotton properly prepared for its long journey through the mill, where the mixing and blending of the cotton should receive careful attention from those experienced in cotton, the work is done by people knowing nothing of cotton in grade, class, staple or general character. I know the cotton is selected for mixing by the superintendent or cotton expert of the mill and passed along to the mixing room with instruction for mixing. But here is where an if comes in. The cotton is selected by samples drawn from the bales and instructions given according to these samples. This would work all right if all bales were true and up to samples. But often they are not and the staple and quality of a few bales may be far different and the laborer employed in this room, hardly knowing cotton from wool, mixes the whole batch together and it is then too late. One bad lot mixed in this way will cause more loss in cash value than many months difference between skilled and unskilled labor.

It is in this room where a check on the selection of bales to be mixed should be made. "An ounce of prevention is better than a pound of cure."

The prevailing idea, beginning with the first opening of cotton as recorded in history, has been to gently whip or beat the cotton in order to clean it of its foreign matter. We find it was so treated in India, Egypt, Turke, China and the West Indies, as far back as reliable history can tell us. Today we are using the same basis for our principle. We have invented machines of great strength and power to roughly handle one of the most

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J. E. CHEESMAN,
New York.

ment in the cotton mill, he is surprised to find that the so-called progress in opening, picking, blowing and cleaning of cotton has been sadly neglected and the quality of work performed in the first processes has been sacrificed upon the altar of space without any apparent regard to quality of work performed.

In order to make clear the great change in principle from right to wrong, let us follow for a moment the history of opening and cleaning cotton in the mill and there find if possible a better system, a safer and saner way of preparing cotton for carding and finishing. Before the days of cotton mills, before the invention of mechanical means of ginning cotton, when seeds were extracted by the fingers, we find the lint cotton was cleaned by gently whipping it. Before the cotton had

Waste Utilization and Efficiency of Operation

By Eugene Szepesi before Southern Textile Association

Waste is unnatural. Creation, when balancing the Universe determined a certain use, a certain purpose, for every phenomenon and for every matter. The ordinary house fly which we consider today as a useless and wasteful creation, has a duty to perform just as well as any other creation. Its original duty, determined upon it by nature, was perhaps the transmission of organic matter from one place to another, thus balancing the quantity of liv-



EUGENE SZEPESEI,
Boston, Mass.

ing creations, which have been destroyed by the transmission of microbes. Human society in the present stage of civilization exterminates these little pests, not because we are wasteful, but only because they are harmful. This is one extreme of the theory. We have many other reasons for making the statement that waste is unnatural and should not exist. By lifting that pencil, my brain through its nervous system, communicates the intention to the muscles of my arm, which again command my fingers and my arm to perform the suggestion of the command of my brain. It is possible to determine by computation the force required to perform this work, and if it were possible, to measure the force exerted by my muscles and my fingers, we would have an absolute proof that the force in question developed this absolutely in proportion to the force required, provided the communications are of a sound brain. Here is another proof that nature itself balances the organic matter to perform certain duties in proportion to the requirements. The undisputed theory that you cannot destroy matter shows clearly the unnatural origin of waste. The above examples should serve as sufficient proof and reasoning, so that we can enter the purely human phase of the matter and discuss the wastes, their origin, their psychology, connected with the economic question of human life, namely, the creation, distribution, utilization and consumption of wealth.

An ordinary pine board, a few

inches wide and a few feet long, may lie on a highway for years before anyone in our country would consider it worth while to carry it to his home, no matter how near it may be. It is an undisputed fact that in every house an ordinary board like that would have many uses, if for nothing else than for firing purposes this substance could be utilized, and increase the individual wealth to a certain fraction. In our conditions this fraction is so small that it would take a human on the lowest degree of wealth productivity to consider that piece of board. So it is wasted, a certain thing which could be utilized. In the Arctic regions, where wood is very scarce and therefore its intrinsic value very high, any Eskimo is willing to travel a half a day to secure this piece of board for which he has numerous uses and it would represent a gain in wealth to him. Now let us reverse the conditions. If such a condition should arise that ordinary washing soap was scarce, I would be willing to pay many times over its actual value in order to obtain it, as the possession of this useful article is almost a life question. I may throw out a barrel full in an Eskimo community where this useful article is very scarce, yet if I should imagine that they are going to fight for the possession of it I am greatly mistaken. Under the best circumstances they would, may be, accept my gift with curiosity and consume it as an after dinner desert, which would actually mean waste, as even an ostrich could not claim beneficial and tissue building effects from a substance which is a combination of carbonates and alkali. So my Eskimo friend would waste a useful article, not utilizing same for the purpose intended. If he would use it in the same idea as I do, the pores of his body would enjoy the blessings of hygiene.

While searching for the psychological reasons which would account for the attitude of the American cotton manufacturer toward their waste production my investigations resulted in the following conclusions. The building up of our textile industry, speaking specifically of our cotton industry, has taken place under conditions for which we cannot find a precedent in any in any other nation's industrial development. For the last half century the United States has been a country of constant increase in wealth and in population, for which reason the progress of industrial development has taken place at the highest possible speed. In a comparison between the three leading industrial nations of the world today the United States stands at one extreme, Germany stands at the other and England is placed between the two. The German is conservative, slow in creation but progressive in development. That old Ger-

man proverb, the motto of the German manufacturer, "Billig aber schlecht," or "Cheap but inferior," is a matter of the past, as even in cotton manufacture Germany stands today for the highest development of the industry and we can, without hesitation, bring this nation up as an example of how to utilize, how to create cotton products to the best advantage. Now between the two extremes stands England, the original land of cotton manufacture, with its immense production which leads the world even today and will lead for a considerable period. The Englishman is more progressive. He is apt to accept ideas if they are reasonable. He is willing to develop new lines and is quite careful in the way he utilizes his material to the best advantage, but he lacks that certain thing which the German is gifted, namely, the thoroughness with which an industry or any branch of it is developed.

Now we come to the other extreme; a nation of growing Titan giants, with the wit of the Irish, the keen eye of the Oriental, the cool determination of the Norman, and with an opportunity to develop an industry quickly, which is not given to any other nation. The result is that the question of thorough utilization is a secondary issue. It was a secondary issue; it isn't today any more, as the value of raw material for the cotton industry has reached a high figure and we cannot expect within a reasonable period a reduction which would bring forward the past conditions. We have our cotton in our own land; cotton which leads in quality and the utilization of which is much more facile than any other grade in the world. But conditions are changing. The cotton supply is increasing in fact, but the demand increases also and the line is above the supply line, therefore we have to follow the examples of England and Germany and utilize our cotton to a better extent. Taking our cotton consumption in the United States to be about 4,500,000 bales, a reasonable deduction is, that the waste having a utilization value amounting to about 8 per cent of the original consumption, would amount to 180,000,000 pounds. According to the government statistics of this, about 10,000,000 pounds has been exported to Germany and England. Taking the average value of the cotton waste to be about 4 cents per pound, the 120,000,000 pounds assigned for domestic consumption would bring to American manufacturers about a half of a million dollars. Lacking authoritative statements I could not obtain actual figures, but I find it reasonable to state that the American manufacturer does not get two-thirds of this amount through the indifference and improper handling of the waste. The one-third of our yearly production of waste which goes to Europe and is manufactured into market-

able articles will bring the German and English manufacturers, according to my estimation, more than the American manufacturer gets for his cotton waste from the American consumers. What is the reason of such conditions? The answer is clear; the lack of proper utilization.

I had an opportunity to examine the waste of several American mills and found out that the value of the waste has been artificially decreased by the improper handling in the mill. I made some notes of a lot of sweeping waste gathered from the flyer room and the mule room, which contained 30 per cent of such substances for which I could not find the slightest excuse. From this lot of waste, which I presume was carefully selected so as not to give me the worst part, I extracted one-half of a sour pickle, chewing tobacco of different grades, varying from Long Cut Navy to Irish Plug grades. I guess this came from the spinning room. I also found in this waste the well used remains of Spearmint and Tutti Frutti, which I presume represented the ladies' chewing ability in the flyer rooms. The mule spinners also generously contributed to this collection with something else which is the consequence of tobacco chewing and this is neither agreeable or sanitary. I also found plenty of cup tubes, nails, paper strips, wood scraps, iron scrap, broom straw, and to reward my troubles for a thorough investigation, I also found a solitary penny. The remainder of the waste was matted together to such an extent that I could not place the value of this waste at more than 11-2 cent per pound, when same if properly handled, which could be easily done without any additional expenditure, would be worth 41-2 to 5 cents per pound.

Now let us consider the way in which this cotton waste is utilized in the United States and how it is utilized in England and Germany. Our cup waste is readily absorbed by the railroads for wiping purposes. In the way they use it the actual efficiency of this waste never reaches 70 per cent and in many cases is as low as 30 per cent. If this waste could be handled in the way it is done in England and Germany, especially in Germany, the value of service of the wiping waste would be increased from 150 to 200 per cent over the present efficiency, or summing it up, two-thirds of the waste consumed by the railroads today could be utilized for other purposes. I feel considerably chagrined when on my last year's visit to Germany a cotton waste manufacturer showed me a wiping cloth for which he received a good sized order from the United States. This cloth was made of cotton waste which had been imported from the United States, put into a marketable article and sent back to the States again with its value increased almost 200 per cent per unit, which entire amount went to the credit of a foreign manufacturer.

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The Weave Room

By Z. H. Mangum before Southern Textile Association

IN a paper of this kind I realize the fact that it is not possible for me to present anything new to this body of men who are the moving spirits and who are to a great degree responsible for the success of an industry that not only we of the South, but those throughout the whole country are justly proud.

I shall not attempt, in this article, to discuss any particular fabric nor any particular loom, for such discussion would not be applicable in a meeting of this kind, where all classes of goods are represented. Moreover, it would be a fallacy on



Z. H. Mangum,
Gibsonville, N. C.

my part to attempt the discussion of the mechanism of a loom or the principles of fixing. I shall, therefore refer to these only in a casual way in connection with other matter along this line.

In this subject we have the process of interlacing yarn, threads, strands, strips and various other materials in such a manner as to produce a cloth or fabric of an allied nature. To perform these operations we have machines called looms, which vary in nature according to the kind of fabric they produce. To find out whether or not we, as weavers, are keeping abreast with the advancement made along other lines of industry we should compare the results attained in early history with the results we are getting today. In the very early stages of weaving the process was performed by stretching the warp threads vertically and inserting the weft by the finders; in fact a similar method is still employed in the Orient for the production of rugs. With the use of a longer weft came also the use of a stick with a hooked end for pulling the weft into position. With this improved method an expert could probably weave at the rate of one pick per minute per operative. With the addition of a harness motion cloth is still woven by this method in some of the Oriental countries. We have no history, however, of the first use of the harness for dividing the warp threads, but it must have been very

early in the development of the industry as both the shuttle and weaver's beam are mentioned in the Bible as well as other ancient writings. It is very probable that this class of weaving continued for several centuries, with little or no improvements until the invention of the fly-shuttle by John Kay in 1733. At this time, for weaving very broad cloth, it was necessary to have two weavers, one at each end of the lay to throw the shuttle to the other. By Kay's invention one of these weavers was dispensed with and an increase in production of about one hundred per cent.

The first power loom we have any record of was that built by Cartwright in England in 1785. Owing to some prejudice, however, that loom had very little success and in 1815 Waltham introduced the first power loom in America. With this small beginning in less than a century we have this great industry which embraces an endless variety of looms for weaving every conceivable class of goods from the finest muslins to the heaviest blankets, from tape to sail cloth and from straw matting to wire fencing.

In this article, however, we want to confine our thoughts to the weaving of cotton cloth and particularly such classes of cotton cloth as are made in the South. In the first place we will assume that the yarn comes from the spinning in a first class condition, and I want to emphasize now that too much cannot be said along this line, for it is well known that when the yarn comes from the spinning in any other condition the weaver is the victim of circumstances which he cannot overcome. On the other hand the yarn may come from the spinning in a first class condition and then so treated in the preparatory process that the weaving will be equally as bad as in the first place. This being so, it will be necessary for us to confine our efforts to the things which we can control. In the first place the warp should be properly sized but since this is a broad subject in itself, I shall not attempt to give any formulas along this line. The sizing, however, will depend to a great extent upon the class of goods being made, upon the finishing process, as to whether the goods are to be bleached, dyed, napped or otherwise treated as well as the purpose for which the goods are to be used. We would not size a hard twist yarn just like we would a soft twist, neither would we size a warp for a soft, finish the same as we would for denims, tickings or similar fabrics, therefore, it will be necessary for each individual to work out his formulas to suit his special case. We will now consider a few points of vantage in the weave room.

In the first place the weave room contains more self-supporting or grown-up help than any other de-

partment in the mill, and in nearly every case by far the majority of this is piece help. Then, it seems that the tendency would be for them to get the largest production possible, for in so doing their wages are correspondingly increased. If this apparent tendency were true it would seem that this department does not require much management and that things would run along all right in themselves. But is this true? Emphatically no! I feel safe in saying that the most important thing in this department is the management. What does the management of a room mean? It means, first, your personality, your fitness or your efficiency. It also means the taking care of the little things in a room, such as wear and tear of machinery, a thing which is so often lost sight of, the loss of power, which will be dealt with more fully hereafter. Also production of the greatest quantity and of the highest quality. This maximum production, however, is almost worthless without a correspondingly low manufacturing cost. It means further, the low waste account, in fact, anything and everything that tends to increase the output consistent with a low cost; the upkeep of the machinery which should be kept in first class condition all the time, as a run down machine will run your cost up and is calculated to ruin your best help. Last but not least, it means the organization of your room whereby you may know at all times just what is being done, how it is being done and for what purpose it is being done. For instance, in a room poorly managed you will find the help more or less indifferent about their work, don't care whether or not they get any production and care less about the quality of their work. On the other hand you notice a weave room with good management and you will find the weavers striving to excel each other in production and quality of work. You will see the loom fixers interested in keeping their work on a higher plane of perfection and there will be very little wasted energy as everything will work in perfect harmony with each other. The room will be correctly lighted insofar as is possible with the overseer, and the atmospheric condition looked after so far as to conform with the best running of the work. I will state, however, that the humidity in the weave room should be regulated to suit conditions that otherwise could not be changed. That is, where very heavy sizing is resorted to it requires more humidity than for a light sizing, everything else being equal. At the same time very few weave rooms are hurt by having too much humidity, in as much as the yarn is tightly wound on beams and this nearly always when the yarn is hot and therefore does not contain its natural moisture. The yarn in this condition has no way of taking in mois-

ture and since so little of the yarn is exposed to the atmosphere of the room it is necessary to have what would otherwise seem to be an excessive amount of humidity. With the humidity registering from sixty-five, and for certain classes of work up to eighty, you will get far better results than with any lower degree, the yarn will be more pliable, the fibres clinging close together producing a smooth, strong thread that will withstand the strain in the process of weaving without chafing or wearing the yarn to a degree that it will break. Again, when the yarn wears it necessarily makes that much fly which is suspended in the air and inhaled by the operatives, while with sufficient humidity the tendency would be for all foreign matter to settle and remain on the floor. It is not only necessary for the overseer to know what is best for the room in general but he must know the loom, for the timing and setting of a loom is of vital importance, not only in saving power, but you can take a piece of cloth of the same construction and made of the same yarns and so time the loom that there will be a marked difference in the appearance of the fabric. You can regulate your whip-roll and time the harness motion to such an extent as to produce a face on a plain woven fabric or to produce a fabric with a soft, smooth side, one that will not show what is known as reed marks but will equally distribute the warp ends in such a way that it will not appear to have drawn two ends in one dent of reed. By changing only the timing of the harness motion you can change the appearance on the face of a twilled fabric to such extent that even though two pieces were made from same warp and filling it would appear to be differently constructed. Therefore, to accomplish the best result in weaving it is necessary to have a good man at the head. Not only a man who is an expert weaver, for you frequently get this in a loom fixer, but one who can and will organize the room to the best interest of both employer and employee. First, let us not harbor an idea that we can run the room whether or not we have the support of those under us for such an idea is fit for no other purpose than to destroy our highest and noblest purpose. We are compelled to rely upon the services of our fixers, and since this is true it behooves us to get them in our way of thinking as they are responsible for the good running of the work or loom to a degree excelled only by that of the overseer himself. Aside from the fixing of the loom so that it will run there are many things that a fixer should slight if not interested in his work that would be detrimental to the quantity and quality of the work from his weavers. In putting a warp upon the loom he should satisfy himself that everything is done that would benefit the weaver. The harness should be hung right, that is, not so tight as to produce a jerk

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The Construction of the Cotton Card

By Fred Taylor before Southern Textile Association

It is hardly probable that I shall present any new ideas in reference to my subject, but if by repetition of old ideas I make them more real and beneficial to anyone, I shall be fully repaid for my efforts.

In order for the card to produce perfect work it is necessary to have a good lap from the finisher, picker and after this has been secured it must be carefully handled. This can be done if suitable lap trucks are provided and operatives properly instructed. Careless handling of lap will result in the formation of thick and thin places in the lap even if none were present when the lap left the finisher picker. The outside layer of lap will measure at least six feet and with a draft of ninety we would get 540 feet of uneven sliver, which can be remedied by careful handling of lap.

If the lap contains thick and thin places, it makes it possible for the licker to draw small tufts of cotton from under the feed roll at the thin places, producing not only an imperfectly carded sliver, but also loading the cylinder and flat wire with improperly carded and neppy fibres, and for this reason would result in the loss of an excessive amount of good fibre.

Given a good lap, the next thing is to see that wooden lap roll is performing its duty. The top of the grooves should not be too wide and to insure a good grip, it is of great advantage to paint the roll occasionally with a mixture of paint and coarse sand, as uneven feeding must be guarded against.

If the weights on the feed roll are not properly hung or are obstructed in any way, the licker will draw cotton from the feed roll in bunches. The present method of weighting the feed roll is worthy of attention. If, instead of the almost vertical pressure now used, the feed roll were so weighted as to produce a pressure diverted laterally towards the nose of feed plate, it would give us the greatest pressure at the point where the greatest amount of pull is exerted upon the fibres, and result in a more uniform feed.

Let us consider surface speeds. The surface speed of feed roll is about one foot per minute, while

that of licker is over 1,000 feet per minute. This great difference is very effective in separating the lap into almost individual fibres, being assisted by the licker teeth over three million of which pass through every inch of the lap. It must be realized that those fibres that lay at right angles to the feed roll, will be partially combed before they leave the grip of feed roll, while those fibres that are parallel to feed roll will be struck away from feed plate and receive only a minimum amount of cleaning action by licker teeth. There is absolutely no parallel arrangement or regularity of the fibres in the lap and for this reason, the greater amount of cotton is separated from the lap in small tufts or bunches. In my opinion if it were possible to separate the fibres individually, we would get a cleaner sliver, but there would be a tendency to make a greater amount of waste at the licker, because the licker teeth have not the same grip on a single fibre as on a group of fibres, consequently more fibres would be thrown out at the mote knives. This is true to some extent and may be proved by an examination of waste in licker box, which will show some good individual fibres. In order to get the best results the licker teeth must be kept in good condition.

This almost individual separation of the fibres, renders it very easy for a large amount of the heavy trash to be knocked down through the mote knives, the amount and character of waste taken out at this point, depending on the angle and setting of mote knives.

The frequency of grinding and consequently the life of the card clothing, depend to a great extent upon the correct adjustment of the mote knives, it being evident that if mote knives are not properly set, some of the heavier impurities will pass forward, to be removed at the flats, which would necessitate more frequent grinding.

It is seldom necessary to change the angle of the mote knives, but we have two other important settings, the first being the distance from mote knives to licker teeth and

the other the distance between the point where the fibres are loosened from the feed plate and the first mote knife.

After the mote knives we come to the screens under the licker in which we find several grids, which are put there to allow loose trash to drop out. This screen continues under the licker and cylinder, serving principally as a draft preventer.

A great deal of misunderstanding exists regarding the disposition of the fibres on the licker teeth, but it is evident that only those fibres that are doubled around teeth of the licker or entangled with other fibres can be held and carried forward by the licker teeth.

The principal factors in removing fibres from the licker teeth are first, the greater surface speed of cylinder, second, the immense number of wire teeth on its surface and third, the bend of wire. The surface speed of cylinder is 2,200 feet per minute and that of licker 1,000 feet, so that cotton is transferred from licker to cylinder very easily. It is quite possible that during this removal, a slight scraping or clearing action exists.

The setting of back knife plate should be such as to keep fibres in suitable position to receive the action of flats. If this plate is too far away from cylinder, it allows those fibres that are not securely held by cylinder wire to fly away, and this has a tendency to throw good fibres onto the flats to be removed as waste.

The construction of the flats is such that the first portion of each flat that acts on cotton is about 3-400 of an inch farther away than last portion. This is termed the "heel" and "toe" and exists for the purpose of exerting a gradual cleaning action at each flat.

When a mass of tangled fibres are present they are certain to be caught by the flat wire as well as the cylinder wire. The angle or bend of wire is such that both sets of wires maintain their hold on the fibres and as a result, the mass of fibres is disentangled and each wire takes along those fibres that it holds. There is a strong probability

that a continuous interchange of fibres takes place between flats and cylinder.

After a consideration of this subject it is evident that the greater part of cleaning action takes place on the first set of flats. By holding flat strips up to the light it is shown that the waste is not evenly distributed over the surface of the flat, but that some places are very thickly covered with waste, while on other places very little waste is seen. This condition makes it evident that cotton is delivered to the cylinder in a very irregular shape and not as individual fibres, as is sometimes supposed.

Theoretically, it is assumed that the cylinder delivers to the doffer all the fibres of standard length, while as a matter of fact, a great mass of good cotton is deposited on the flats and removed as waste. It is also found that a large amount of short fibres gradually work down into the spaces between the wires on cylinder and doffer and this condition necessitates frequent stripping.

If an examination of the cylinder wire is made at the point where the flats leave the cylinder, it will be seen that the fibres are scattered over the surface of cylinder wire in a very irregular and matted condition and do not show the slightest appearance of being parallel. This condition materially assists the doffer in removing cotton from the cylinder.

From the point where the flats leave the cylinder to the point where the cotton is deposited on the doffer the distance is about two feet, this space being covered by a plate or screen which not only eliminates air currents, but should hold the fibres in such a position as to facilitate their removal by doffer. It must be remembered that the great speed of the cylinder and the loose condition of the fibres, have a tendency to throw the loose ends away from the cylinder, consequently are easily removed by doffer.

The surface speed of the cylinder is 2,200 feet, while that of doffer is only 60 feet, so that the cotton that occupies 36 inches on the cylinder

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W. H. BIGELOW

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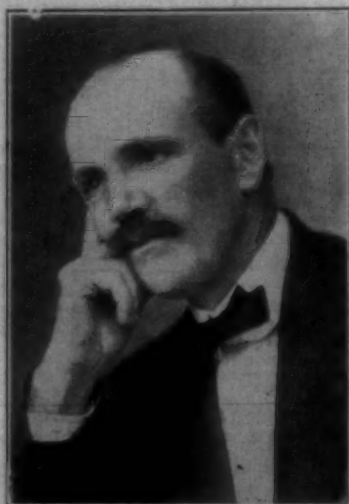
127 Central Avenue, Atlanta, Ga.

Mill Village Improvements

By J. L. Carberry before Southern Textile Association

ON receiving the invitation to appear at this meeting of the Southern Textile Association I confess I was confronted with a conflict of thoughts. I knew that those persons would be here who are most interested in all efforts and devices for advancing the cotton industry of manufacturing interests. But I also realized that the experiment which I represent is young, and that any who might choose to antagonize the project cannot be faced with the knock-out argument of accomplished results.

But we are not entirely empty-handed as to results, and besides it not too soon for a statement of our plans and designs, for the value of our success depends entirely upon a full understanding and appreciation on the part of the opera-



Jas. L. Carberry,
Washington, D. C.

tors and the public. So I am here to present in a way which of necessity must be brief, what are believed to be the possibilities of Mill Village Improvement through the cultivation of various kinds of plants; why we believe in these possibilities, and something of how they are to be realized, trusting to your good judgment to decide whether the response we have received justifies confidence in our cause.

Of course every good idea has its origin somewhere and it has fallen to the lot of Monaghan to be first to test the value of instruction in gardening to mill operatives, to invite the attention of the National Government to the problem, and to give its generous support to the movement.

The United States Department of Agriculture always stands ready to give its assistance and advice, but this enterprise is fortunate in attracting the special interest of that great benefactor of the Southland, the late Mr. S. A. Knapp. With his clear vision Mr. Knapp saw in the cultivation of the mill village garden not only a source of increased food supply, but also the means of

developing in this population new habits of industry and self-help. So it was with a genuine human interest that he gave his Godspeed to this errand of assistance whose object is the making of the mill village a collection of real homes by this form of improvement.

But whatever may be the goodness of heart back of this effort, I would not have you regard it so much as a philanthropic enterprise as a business proposition. Your mill village is an investment the same as the mill itself. It is part of your plant. You expect it to serve the industry the same as the industry is served by the spindles and looms. That mill village is the best investment which attracts and holds the most efficient operatives. The higher class of operatives naturally seek the best material advantages and the most congenial surroundings. If vines and roses, tomato plants and corn, contribute to these ends should you not encourage their cultivation?

I ask, if the man who raises the family supply of vegetables in his garden while his good wife decorates the door-yard with flowers and the children give their support to a tomato club, is not such a family a more valuable asset to the company than the shiftless floaters who allow desolation to surround the cottage and buy what they eat in cans? The habits of industry, and that intelligent interest and careful attention to details which are required in gardening are the same virtues you wish the operative to exercise inside the mill. Will he not be better able to promote your interests if he is a man capable of promoting his own? You can afford to make such an employee attached to the soil upon which he lives. He lives in your cottage but he should feel that it is his home.

The kind of mill village improvement we are considering calls for the co-operation of the employer and the employee, and neither should attempt or be expected to do the work of the other. The relation is like that of the National to Local Government. The Company must make general provisions and supply the leadership but as far as possible the people should be encouraged to do the work themselves.

Take for example the matter of parks and drives, the flower beds about the mill and the public buildings. This work with the exception of the mere manual drudgery would be done by the school children, if their interests are aroused to the matter in the proper way. Lay these things before them as matters of civic pride, proportion the tasks to their years, and you will not only give to the place a new beauty, but you will be teaching these young people a lesson in loyalty to the community in which they live. It is entirely possible for the Company

to do too much in certain ways with the same results that comes to the child from over indulgence on the part of the parents. What your people both young and old need most is to have the spirit of self-help properly cultivated.

Competent supervision in matters of village improvement is as essential as it is in the operation of the mill itself. There is little encouragement to the mill operator in incurring the expense of laying out beautiful grounds if the public does not care whether they are preserved or destroyed. When once the people have done something with their own hands they feel a personal interest in its preservation, and the one who is detected at any kind of depredation is liable to be as roughly handled as if he had trespassed upon private grounds.

It is unfortunate that so many persons do not know how to transplant a tree, how to set out the simplest vegetable, or how to prepare the bed for the seed of the common plants which give everyone so much satisfaction, either from the beauty of their blossoms or from their value as food. Do not think it is because the people do not care for any one who will take the trouble to observe the pathetic attempts that are made at cultivation will see that the only reason why the results are so poor is because the people do not know how. I am not advocating the introduction of new plants except where they are needed to fill in some of the gaps, but I am urging that the proper attention be given to and a better distribution made of those which our people are heroically yet inefficiently trying to raise.

I could name over lists of vegetables and flowers until you might think I had torn some pages from a seedman's catalogue, specimens of which are found in your village gardens and yet but few of them growing under conditions that can be expected to give more than indifferent results. And why is there so much wasted effort? Simply because the people cannot do any better than what they know.

It is not my design on this occasion to present you with a text book on mill village gardening for the details of the practice would becloud the issue. The question I am putting before this association is whether these people do not deserve more knowledge of gardening than that with which they were born into the world with, supplemented by the few false notions they have learned from their friends. If you agree to that, then I wish to add a suggestion as to the best way of performing this service.

I may say first that I should like to see these people make their homes attractive and pleasant. They should be shown how to correct the unsightliness that comes from placing their houses on stilts. I should

like to see them taught how to shade their porches with vines so as to break the heat and glare of your Southern sunshine. It seems that they should learn to appreciate green grass and should change their ideal of a yard from one that is well swept to one that is well watered and well clipped. They have much to learn about the distribution of flowers so that something will be blooming as nearly as possible at every season of the year.

A little of the proper instruction would teach them to lay out their plants in pleasing designs. They need almost above everything else to realize that there is more beauty in a few well chosen flowers than in a wilderness of poorly selected varieties. In some of these little gardens we find almost every specie in the vegetable kingdom represented, from the dock weed up.

But the place where the material benefit is to be gained lies in the improvement of the vegetable garden. If anyone doubts the possibilities of getting profitable returns from so small an area I can do no better than to quote the exact words of one of our Monaghan citizens:

"It has been said by some that a garden does not pay at a mill village. I want to give the readers of the Monaghan a few facts and figures on my garden for the year 1910. My expenses for seeds, manure, and plowing were \$5.60, and there were few days between May 7th and December 31st, that I did not get vegetables out of my garden, which would be 240 days, and 10 cents per day would be the smallest amount that one could think of counting it at, which would be \$24.00. Besides I sold some vegetables of which I never kept any account, which would give \$18.40 for my labor of only a few hours. I had good fresh vegetables, not the kind that had been in the stores for several days. We have plenty of land for a garden."

All this was before any attempt was made to increase the productivity through improved methods.

The plan should be the same here as in the case of the floral garden, that is, to make use of the kinds of vegetables which the people already raise and which are a part of their regular diet. We will only have to fill in a few to make a complete succession of crops throughout the season. Then we must apply all those improved methods of cultivation that are working the revolutions on the farms throughout the South. The Government reports for the year 1910 show that the demonstration plots in your own state which were cultivated according to the instructions of the Department of Agriculture, yielded 33 1-2 bushels of corn to the acre, while the average for the state of South Carolina as a whole was only 13 1-2 bushels. We can make the same improvement in the amount produced on these mill village gardens if we

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M. G. Stone.

The election of M. G. Stone, the veteran cotton manufacturer of Spartanburg, S. C., as president of the Southern Textile Association, met with the general approval of all connected with the textile industry of the South.

We wrote Mr. Stone for a sketch of his life and received the following interesting letter in reply:

Spartanburg, S. C.,

July 3, 1911.

David Clark, Charlotte, N. C.

Dear Sir: Yours received, and in reply will say, you seem to have gotten the best of me in the election "bout." You should not have done it. I would much rather you had respected my wishes and had elected a young man, however, not being at the meeting to prevent the election and the deed having been done in the "dark," I will have to make the best of it, and doubtless



President
M. G. STONE,
Spartanburg, S. C.

the powers behind the throne will have to work harder than ever to keep the interest alive in the Association.

In regard to my mill experience or career, will say that as I view it, it has been a very common place one; and at the same time there are some things in connection with it that are very interesting to me. I was born in the hilly New England town of Auburn, Mass., in, well the date does not matter, but is was "several years before the war."

The "bringing up" part of my life was about the same as the ordinary boy of that period. They say "bring up" children in New England, the expression here being more often "raising or raised." I see no difference if the proper training and parental influence is used. In my case it must have been along the lines of not wasting anything and a careful regard for the details of life.

I remember the first work done in the mill was what is called "putting in roving" on mule. The part most vividly remembered was scrapping with the other boys to get my part of the roving that was made on a "List" speeder. This roving

was condensed sufficiently to turn the hobbin in the creels. It was not twisted and consequently had to be handled with great care to keep it from "breaking back" in the creels. The man who had charge of and ran the mules (they were hand mules) said I did my work well and allowed me as much pay as he could. I guess he must have been liberal as I made just enough that winter of 1863 to "pay the house rent." I suppose the profits must have come from some other source as I spent the next year in school part time and part time working on a farm. In the winter of '64 and '65 I was running a slubber and I think the work or manner of doing it must have been quite satisfactory as I then and there made friends of both the overseer and superintendent. They proved it in many ways years afterward.

If I was going to say just why I made friends of these two men I would say that it was in doing the work in a proper way, most especially being careful to keep the clean waste from the floor. It may be that what I had learned on the farm of keeping the hay raked clean after the cart, had something to do with my desire and willingness to keep the cotton from going to waste on the floor.

By way of explanation I will say that the slubber that I had charge of was of a pattern not known to the present generation. The bobbins had large heads and the flyers had no compressors on them. This produced a soft wind, and as the bobbin fell behind the flyers it produced the wind. When from any cause the end broke or came down the roving would rapidly unwind and being thrown against the flyers it produced waste very fast and the air would be full of the clean roving whipped about by the flyers. The writer with the habits of a good home and farm training could not afford to see the cotton go to waste and would always carefully gather up all of the waste cotton. This as stated before, did not fail to make a good impression on the overseer and superintendent. Not that it was done for that purpose but because it was right to be careful of details and practice the little economies that altogether go so far to make up the successes of life.

I often think that right there the foundation was laid for my life work in a cotton mill, and the lesson is an important one not only in cotton mill work but in every business of life.

I know that long before I was old enough to look for or expect a higher position in the mill, both of the men referred to were offering to assist me. I accepted the offer of one of them and held for a few years an important position as second hand in carding in the Blackstone (Mass.) Cotton Mill. I always regarded this as the best and most important position in my life as I lacked several years of being old enough for such a position. I am assured the "boy" now that while rather young for the place I did not disappoint my friend who had risk-

Response to Address of Welcome

BY W. L. LOWRY, MONROE, N. C.

MR. President, Mr. President of the Board of Trade, Mr. Mayor, Mr. Speaker for the Mills, and Gentlemen of the Southern Textile Association:

The members of the Southern Textile Association are indeed very fortunate in having had this beautiful and progressive city, at the foot of the mountains, and in the very best part of the South, selected as a meeting place for them at this time of year, and we feel that it is hardly necessary to state that the many expressions of kindness and the pleasant greetings that have been extended to us by leading citizens of the city, representing the city itself, the board of trade and the mills, are as highly appreciated by ourselves as they are flattering to our association.

A more suitable place for a meeting of this kind could hardly have been selected, as within a radius of one hundred miles will be found three-fourths of the spindles of the South, and Greenville is, in many ways, a pioneer in the Southern cotton manufacturing industry; having either in operation, or under construction, mills, which will use cotton and cotton waste from the low grades to the best it is possible to obtain.

The mills are mostly of the very best type, and will and do serve as models for the mills around them.

Not only is this an important manufacturing center, but is a leader in the other various branches of business industries. It stands for only the best of everything, and has taken the lead in colleges, churches, manufacturing and other enterprises. As its citizens are ever ready to help advance and build up, we predict for it ever growing importance and prosperity.

Greenville and the Southern Textile Association alike have just cause for much pride in the stand the mills of this city have taken in bettering the condition of their employes, and we believe that we are justified in stating that here can be found the model mills of the South in this respect.

We feel that there is nothing for ed his opinion and judgment of my capacity.

Other positions as overseer of carding were later held in several mills. The most important one and also the first one was for six years in a mill at Putnam, Vt. I learned there from an old fashioned cotton mill superintendent that one of the most important things in cotton mill or any other business was to "learn to stand trouble," and right here let me say it is one of the hardest things of life to learn; but it has to be learned to a greater or less degree before much success will come. Many, many times I have quoted the expression, you "must learn to stand trouble." If you leave one place on account of trouble or worry you may rest assured you will find the same trouble will follow you.

which these mills are to be more commended than for the many advantages they throw around their operatives for making their homes and work pleasant, as well as giving them greater opportunities for self-advancement; and we, as a part of this great industry, take great pleasure in expressing our most hearty approval of the stand here taken. We believe that such methods will end for all time the severe and mostly unjust criticisms that have been made from time to time of the manner in which the cotton mill managers of the South deal with their operatives.

We are proud of this stand your city has taken, but when we come to think over the matter, and to know that for many years, it has been the leading educational city of its size in the South, we can readily see how the desire for the advancement of the cotton mill operatives was inspired and put into execution as education and advancement of all kinds walk hand in hand. We feel especially proud that you have seen fit to give this body of men, made up mostly of those who have reached their present positions by hard work and close application to their duties, many being handicapped by an absence of early training, such a generous welcome, and we feel that this is a sure token of the esteem in which the men who do the work are held. Such greetings and token of friendship as we have here received should be and is an inspiration and encouragement to us, and we can all go back to our work, with a fixed purpose to put forward even greater efforts in the future than we have in the past.

We wish again in conclusion, to say, with full hearts and grateful feelings, that this is an occasion long to be remembered by the members of this association, who are so fortunate as to be present, and that we bear and shall ever bear, a deep sense of your kind and generous greetings, which it is impossible to convey in words, and to assure you of its appreciation by ourselves, and also to assure you of our well wishes for your great city and its equally great mills.

Owing to ill health or fancied tendency that way, the writer accepted an offer to come to the Facolet Mfg. Co., in the summer of 1883.

This seemed to be a long period as we can in the 28 years since almost take in or cover the history of the majority of the Southern mills.

It has been my lot to be with the above company the most of the time and during that time have assisted in starting some seven or eight cotton mills.

It has been my greatest pleasure during these years to have been of some service in helping quite a number of good and worthy young men to fit themselves for the important position of overseer and superintendents. It always gives me

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Among Those Present

We regret that many who attended the Greenville meeting did not register so that we could get their names but the following is a fairly complete list:

Aiken, H., Weaving, Edgefield, S. C.
 Allen, J. H., Carding, Orr Mill, Anderson, S. C.
 Alexander, M. O., Supt. Woodside Mill, Greenville, S. C.
 Ashley, S. J., Weaving, Pelzer, S. C.
 Baber, J. D., Master Mechanic, Gastonia, N. C.
 Badger, J. N., Supt. Walhalla, S. C.
 Bass, T. M., Roll Coverer, Olympia Mill, Columbia, S. C.
 Bagwell, R. F., Spinning, Honea Path, S. C.



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J. M. DAVIS
 Newberry, S. C.

Belue, R. J., Spinning, Fairmont, S. C.
 Bigelow, W. H., Mgr. Card Clothing, Charlotte, N. C.
 Black, W. A., Supt. Capital City, Columbia, S. C.
 Blackwelder, W. L., Salesman Robinson Co., Charlotte, N. C.
 Boyd, H. H., Gen. Supt. Chadwick-Hoskins Mill, Charlotte, N. C.
 Bowen, Ed. W., Steele's Mill, Rockingham, N. C.
 Brown, A. T., Supt. Aragon, Rock Hill, S. C.
 Brannen, A. B., Supt. Union-Buffalo Mills, Union, S. C.

Brown, N. T., Supt. Pilot Mill, Raleigh, N. C.
 Buchanan, S. T., Supt. Piedmont, S. C.
 Buff, J. T., Carding, American Spinning Co., Greenville, S. C.
 Buice, W. E., Spinning, Inman, S. C.
 Busbin, C. B., Master Mechanic, Woodside, Greenville, S. C.
 Bunton, L. O., Cloth Room, Avon, Gastonia, N. C.
 Causey, C. W., Supt. Brogon Mills, Anderson, S. C.
 Cannon, J. M., Supt. Simpsonville, S. C.
 Carter, J. P., Weaving, Woodside, Greenville, S. C.
 Capps, J. E., Carding, Poe Mill, Greenville, S. C.
 Cain, J. P., Supt. Carolina Hill, Greenville, S. C.
 Chandler, W. M., Carding, Woodside, Greenville, S. C.
 Clark, David, Editor Textile Bulletin, Charlotte, N. C.
 Clippard, J. C., Carding, Whitney, S. C.
 Clippard, E. H., Supt. Whitney, S. C.
 Clough, D. E. C., Supt. Walterboro, S. C.
 Cobb, W. W., Spinning, Williamston, S. C.
 Cothran, J. T., Spinning, Spartan Mill, Spartanburg, S. C.
 Cottrell, B. S., G. M. Parks Co., Charlotte, N. C.
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 Coggins, W. R., Spinning, Greenville, S. C.
 Cottingham, A. H., Supt. Otteray, Union, S. C.
 Cooksey, W. D., Nat. Ring-Trav. Co., Gaffney, S. C.
 Cocker, Geo. B., Mfr., Philadelphia, Pa.
 Crocker, T. N., Carding, Newberry, N. C.
 Curry, L. T., Weaving, Belton, S. C.
 Darnell, L. P., Spinning, Central, S. C.
 Davis, W. F., Carding, Brandon, Greenville, S. C.
 Davis, J. L., Supt. Ninety-Six, S. C.
 Deal, C. P., Mech. Engineer, Lockwood-Creene Co., Greenville, S. C.
 Digby, T. J., Supt. Oakland, Newberry, S. C.
 Dilling, Marshall, Supt., Avon, Gastonia, N. C.
 Dobbins, B. J., Genl. Supt., Henrietta Mills, Caroleen, N. C.
 Doggett, Chas. A., Director of Textile Dept., Clemson College, S. C.

Escott, G. S., Editor Mill News, Charlotte, N. C.
 Etters, K. C., Weaving, Republic Mills, Great Falls, S. C.
 Finley, J. C., Weaving, Fountain Inn, S. C.
 Foster, J. C., Spinning, Fountain Inn, S. C.
 Foster, C. G., Supt., Conestee, Greenville, S. C.
 Franks, E. A., Inman, S. C.
 Frye, Gordon V., Carding, Pacolet Mill, Trough, S. C.
 Gay, D. C., Weaving, Camperdown, Greenville, S. C.
 Gilbert, C. L., Supt., Globe Mill, Gaffney, S. C.
 Glenn, W. B., Cloth Room, Woodside, Greenville, S. C.



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 Iler, W. B., Cero Specialty Co., Cleveland, O.
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 Jones, J. Y., Spinning, Newberry, S. C.
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 Johnson, F. A., Salesman Berlin Aniline Works, Charlotte, N. C.
 Kaneer, J. W., Supt. and Mgr., Vass, N. C.
 Keller, P. M., Supt. Jennings Mill, Lumberton, N. C.
 Landau, Alfred K., with A. H. Washburn, Charlotte, N. C.
 Leisel, Julius, Pres. Charlotte Dye Works, Charlotte, N. C.
 Leitner, G. H., Supt. Glen-Lowery, Whitmire, S. C.
 Mattison, J. H., Weaving, Brogon, Anderson, S. C.
 Mangum, Z. H., Supt., Mineola, Gibsonville, N. C.
 Maxwell, Jas. H., Keever Starch Co., Greenville, S. C.
 McCall, C. F., Spinning, Brandon, Greenville, S. C.
 McCombs, J. V., Spinning, Hannah Pickett, Rockingham, N. C.
 McAbee, W. C., Cloth Room, Am. Spin. Co., Greenville, S. C.
 McClure, B. F., Supt., Seneca, S. C.
 McGraw, W. R., Carding, Spartan Mills, Spartanburg, S. C.
 Melcher, Guy L., With Sykes Bros., Atlanta, Ga.

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Contributions on subjects pertaining to cotton, its manufacture and distribution, are requested. Contributed articles do not necessarily reflect the opinion of the publishers. Items pertaining to new mills, extensions, etc., are solicited.

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Advertising rates furnished upon application.

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THURSDAY, July 6

Limited Space.

On account of the large amount of space required for the papers and proceeding relative to the meeting of the Southern Textile Association, we are obliged to omit our discussion page and several of our regular features from this space.

The papers read before the Southern Textile Association were unusually interesting and we are publishing them in full with the exception of the paper read by J. P. Judge on "The Electrical Specialist in the Cotton Mill," and that paper will appear in a later issue.

The papers read were all written by practical men who are experts in their several lines and much valuable information can be obtained from them.

The quality of these papers is higher than those usually read before conventions.

Big Crop Indicated.

The Government report on the condition of the cotton crop which was issued last Monday shows a condition of 88.2, which is far above the average.

The Greenville Meeting.

The annual meeting of the Southern Textile Association at Greenville, S. C., on last Saturday can be pronounced a success in every detail.

Greenville stands today as the leading cotton manufacturing town in the South and the manner in which they handled this convention would reflect credit upon a city of several times its size.

There was nothing left undone that would add to the pleasure of the visitors and the entertainment was lavish.

The cotton mill people of Greenville had joined with the supply houses and the Board of Trade in the plans which made the meeting such a great success.

Too much credit cannot be given secretary Adams, of the Board of Trade for the personal attention that he gave to the convention. He is a live wire and will be a factor in the growth of Greenville.

As early as Friday morning members of the Southern Textile Association began to arrive and by Friday night the porches and lobby

of the Ottaray Hotel were filled with mill men who were renewing old acquaintances and on every side were discussing matters of mutual interest.

On Saturday morning the arrival of every train added to the crowd until at the opening of the convention there were fully 350 mill men present.

Afternoon Session.

The meeting was called to order at 2 p. m. by President H. J. Haynesworth of the Board of Trade opening the meeting. Mr. Haynesworth addressed a few words of welcome to the visitors on behalf of the Board of Trade, Greenville's live commercial organization.

Mr. Haynesworth then introduced Mayor John B. Marshall, who extended a welcome to the textile men on behalf of the city of Greenville. Thos. F. Parker was next introduced, and extended a welcome to the members of the Association on behalf of the cotton mills of Greenville. Mr. Haynesworth then turned the meeting over to President W. P. Hamrick, of Columbia, S. C., who introduced W. L. Lowry of Monroe, N. C.

Mr. Lowry in a few well chosen words responded to the addresses of welcome.

The following papers were then read:

"Opening and Cleaning Cotton," by J. E. Cheesman, of New York.

"Efficiency of Operation and Waste Utilization," by Eugene Szepesi, of Boston, Mass.

The construction of the Cotton Card by Fred Taylor, Clemson College, S. C.

"The Weave Room," by Z. H. Mangum, of Gibsonville, N. C.

There was some discussion of the papers but this was limited on account of the length of the program.

The afternoon session adjourned at 4:15 p. m., and after a photograph had been taken a trolley ride was given around the belt line which goes among the big mills of Greenville.

Night Session.

The night session was called to order by President W. P. Hamrick at 8 p. m.

J. F. Carbery of Washington, D. C., a government expert who is demonstrating in the planting of gardens at Monaghan mill, read a highly interesting paper on the subject of "Village Improvement."

Following the reading of this paper Lewis W. Parker was called upon for a few remarks. Mr. Parker endorsed what had been said by Mr. Carbery in emphatic terms.

The next matter to come before the meeting was the annual business session. Upon motion it was decided to go into the election of officers to serve the association through the ensuing year.

Among those nominated for the office of president were Messrs A.

T. Smith, Langley, S. C.; E. E. Bowen, of Rockingham, N. C.; T. B. Wallace, of Laurens, S. C.; S. T. Buchanan, of Piedmont, S. C., and M. G. Stone, of Spartanburg, S. C. Mr. Wallace begged that his name be withdrawn in favor of Mr. Stone.

W. L. Lowry, R. P. Sweeny and P. A. Gwaltney were appointed tellers and after counting the vote it was found that M. G. Stone, of Spartanburg, S. C., had been elected by a very large majority.

While the tellers were counting the vote a vote was taken relative to the place of the fall meeting. Atlanta and Columbia were both in the race but the former was selected for the reason that it will give the Georgia and Alabama members a chance to attend a meeting.

A motion was passed instructing the Secretary to drop from the list of members all whose dues were two years in arrears.

A committee on resolutions consisting of J. M. Davis, G. G. Simpson and L. L. Arnold brought in a suitable set of resolutions thanking the citizens and mill people of Greenville, the Board of Trade, the supply houses, etc., which were adopted by a rising vote.

On motion the following program committee was elected for the next meeting, David Clark, Chairman; G. S. Escott, Arthur Hamilton, G. G. Simpson and L. L. Arnold.

The secretary and the Treasurer made their reports which were approved.

The business meeting being over the convention returned to the election of officers and after taking a vote the following vice-presidents were declared elected:

First, J. M. Davis, Newberry, S. C.; second, T. B. Wallace, Laurens, S. C.; third, J. S. Osteen, Greenville, S. C.; fourth, E. E. Bowen, Rockingham, N. C.

G. S. Escott, secretary and David Clark treasurer, were unanimously re-elected.

The election to fill the places of the four members of the Board of Governors whose terms expired, resulted as follows: J. Y. Jones, Newberry, S. C.; J. O. Edwards, Pell City, Ala.; W. M. Sherrard, Easley, S. C.; M. O. Alexander, Greenville, S. C.

G. H. Leitner, of Whitmire, S. C., was elected to fill the unexpired term of J. S. Osteen, who had been elevated to third vice president.

Z. H. Mangum, of Gibsonville, N. C., was unanimously elected chairman of the Board of Governors.

J. P. Judge, of Baltimore, Md., then read a very instructive and carefully prepared paper on "The Electrical Specialist in the Cotton Mill." This was illustrated with lantern slides and it was generally regretted that it came at such a late hour that Mr. Judge could not finish reading it.

The convention then adjourned and spent a social half hour enjoying the elegant luncheon that had been prepared for them.

PERSONAL NEWS

H. S. Fowler is now overseer of carding at Glendale, S. C.

C. M. Pegram has moved from Atlanta, Ga., to Columbus, Ga.

Lonnie Carswell has moved from Pelzer, S. C., to Clifton, S. C.

C. F. James is now located at Mt. Pleasant, N. C.

J. A. Abee, of Danville, Va., has accepted a position with the Ivey Mills, Hickory, N. C.

B. L. Amick, of Nashville, Tenn., is now overseer of spinning at the Cannon Mills, Concord, N. C.

B. L. Armstrong has resigned as overseer of spinning at the Cannon Mills, Concord, N. C.

A. C. Coley has resigned as second hand in spinning in Cannon Mill, No. 3, Concord, N. C.

J. P. Couch has accepted the position of overseer of weaving at Batesburg, S. C.

D. N. Grant, of Pelzer, S. C., has accepted the position of master mechanic at Batesburg, S. C.

J. E. McGraw is now second hand in carding at the Brown Mills, Concord, N. C.

Q. H. Elliott has resigned as second hand in carding at the Brown Mills, Concord, N. C.

C. C. Regan, of Columbia, S. C., is now overseer of cloth room at Edgfield, S. C.

J. L. Grice, superintendent of the Barbour Mills, Eufaula, Ala., has been visiting at Shelby, N. C.

G. V. Frye, overseer of carding at the Pacolet Mills, Trough, S. C., paid us a visit this week.

T. D. Dupuy has resigned as manager of the Scott-Mebane Mfg. Co., at Burlington, N. C.

John Snuggs, of Thomaston, Ga., has accepted a position at Riverview, Ala.

Platt Deaver, of Hope Mills, N. C., has been visiting at Concord, N. C.

Chas. Parker, of Trough, S. C., is now grinding cards at the Gaffney (S. C.) Mfg. Co.

R. A. Hull has moved from the Brandon Mills, Greenville, S. C., to Edmund, Okla.

Sam Williamston, of Liberty, S. C., has accepted a position at the Mills Mfg. Co., Greenville, S. C.

William Morgan, of Sherman, Texas, has accepted the position of master mechanic at the Itaska (Texas) Cotton Mills.

J. H. Hudgins, of Greenwood, S. C., has accepted the position of second hand in spinning at Williamston, S. C.

J. M. Hodges, superintendent of the Cedar Falls, N. C., Mfg. Co., was married June 14th to Miss Annie Morris, of Linden, N. C.

Ed Wright, of Charlotte, has accepted the position of overseer of carding at the Marlboro Mills, Bennettsville, S. C.

C. E. Pearce, superintendent of the Tallapoosa, Ga., Cotton Mills, is spending a while in Atlanta during a two weeks shut down.

Prof. S. J. Ludwig, who is engaged in instructing the band at Kennesaw, spent Sunday at Mt. Pleasant, N. C.

H. C. Smith, overseer of cloth room at the Poe Mfg. Co., Greenville, S. C., is visiting at Sumter, S. C., this week.

Roberson of Winston-Salem, has accepted a position in the drug department of Henrietta (N. C.) Mills Store No. 1.

James A. Campbell, who has been employed at the Dunn Mill, Gastonia, N. C., left Monday for Charlotte to enter the Charlotte Cotton school.

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MILL MACHINERY

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A. A. Roddy.....Spinner
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Chas. Orr.....Cloth Room
T. F. Williams.....Master Mechanic

BRANDON MILL.

Greenville, S. C.

J. S. Osteen.....Superintendent
W. F. Davis.....Carder
C. F. McCall.....Spinner
C. L. Watson.....Weaver
W. A. Burdett.....Cloth Room
J. R. Ross.....Master Mechanic

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W. M. Chandler.....Carder
W. R. Coggins.....Spinner
J. P. Carter.....Weaver
W. B. Glenn.....Cloth Room
C. B. Busbin.....Master Mechanic

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J. E. Capps.....Carder
C. W. Pettit.....Spinner
J. O. Spake.....Weaver
Harold C. Smith.....Cloth Room
W. G. Gregory.....Master Mechanic

OVERFLOW PERSONALS PAGE 16.



Cramer System of Air Conditioning

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NORTH CAROLINA

MILL NEWS ITEMS OF INTEREST

Selma, Ala.—The Valley Creek Cotton Mills have closed down indefinitely.

Tallapoosa, Ga.—Some new machinery will be installed in the Tallapoosa Mills during the summer and night work will be resumed in September.

Concord, N. C.—The Cannon Mills will shortly place on the market a new line of 31-inch zephyrs, manufactured by the Gibson Manufacturing Co.

Birmingham, Ala.—Claiming that he was assaulted by an agent for the Avondale Mills, R. F. Bryant has brought suit against the mills for \$10,000 damages.

Lancaster, S. C.—Notice has been sent out to the effect that the annual meeting of the stockholders of the Lancaster Cotton Mills will be held August 7th.

Piedmont, Ala.—The Coosa Mfg. Co. have just completed the installation of a Nasmith combing manufactured by John Hetherington & Sons, Ltd., of Manchester, England.

Elon College, N. C.—The late improvements on the Ossipee Cotton Mills have been completed and the company is now operating 5,000 ring spindles, 354 narrow looms, 21 cards, etc., driven by steam power and employing about 250 operatives.

Gaffney, S. C.—The annual meeting of the stockholders of the Limestone Mills was held last week and the regular routine business was carried out. The regular semi-annual dividend, payable July 1, was declared by the directors.

Stroughton, Wis.—The National Knitting Company, of Milwaukee, Wis., has opened its Stroughton branch, where about 100 operatives will be employed. The company manufactures gloves, mittens and hosiery.

Suffolk, Va.—The Carr Mills Co., has let a contract for a building to be 100 by 40 feet. This company, as recently reported, was lately incorporated with a capital stock of \$50,000 and will manufacture hosiery.

Whitmire, S. C.—Pursuant to a resolution of the board of directors of the Glenn-Lowry Manufacturing Company, a meeting of the stockholders of said company has been called to be held at Whitmire, South Carolina, on the 22nd day of July, 1911, and act upon a resolution of said board of directors relative to 30,000 spindle addition. It is understood that contracts for the additional machinery have been made subject to the approval of the stockholders.

Thomasville, N. C.—It is reported that the Amazon Cotton Mills on account of increased business, will in the near future double the size and capacity of their plant, increasing it from a \$150,000 to \$300,000 concern.

West Point, Ga.—The new electric current to be supplied to the city by the Lang Manufacturing Co., will be turned on Saturday, all the poles and wires now being complete.

W. S. Cantrell, of Atlanta, has had charge of the installation.

Lowell Mills, Md.—It is reported that the Rappahannock Woolen Mills Co., whose plant here was recently destroyed by fire, will rebuild immediately on the same site. The mill was equipped with 260 spindles, 10 narrow looms, etc., and manufactured yarns and flannels.

Cleveland, Ohio.—The new plant of the Green-Haas-Schultz Co., manufacturers of fancy knit goods, is nearly completed. It is a fire-proof, six-story building, with over 75,000 square feet of floor space, and will be equipped with dining rooms, rest rooms, etc.

Barclayville, N. C.—Articles of incorporation have been filed for the Harnett Manufacturing Co., of this place. This company has an initial capitalization of \$25,000 and proposes to manufacture cotton yarns, cloth, etc. The incorporators are: A. B. Currin, W. J. Alston and Sandy Adams.

Fairmont, S. C.—The Fairmont Mfg. Co. are installing 1,500 additional spindles. This machinery is being furnished by the Fales & Jenks Machine Co., of Pawtucket, R. I., the order having been placed with their Southern Agent, J. H. Mayes, at Charlotte, N. C.

Ozark, Ark.—Providing that a bonus of \$5,000 is raised, Ozark will secure a \$40,000 cotton factory. The matter has been put in the hands of a committee to secure the required amount, which is to be paid to the promoters of the factory when the plant is put in operation.

Greenville, S. C.—Monaghan Mfg. Co., is soon to have a new and modern cloth room. The work of digging the foundation has already begun and it will be but a very short time before the structure will be completed as the work will be rushed. Eighty-six broad looms will be installed in the old cloth room.

Mt. Pleasant, N. C.—The Kindley Cotton Mills have just closed down for an indefinite period. The shut down is by order of the stockholders made necessary because of certain contemplated business changes in the corporation. The stockholders

will meet July 15th when future plans will likely be decided upon.

Bancroft, Ga.—The Aldora Mills are going ahead with the work on the addition to their mill and will install 6,000 additional spinning spindles and 4,000 twister spindles. This machinery will be furnished by the Fales & Jenks Machine Co., Pawtucket, R. I., J. H. Mayes, Southern Agent, Charlotte, N. C.

Greens, S. C.—For the new addition to their mill, the Greens Mfg. Co., have placed an order through J. H. Mayes, Charlotte, N. C., for 15,000 additional spindles to be built by the Fales & Jenks Machine Co., of Pawtucket, R. I. This machinery will be shipped during the next sixty days.

Suffolk, Va.—The hosiery plant of A. H. and W. E. Cobb has been completely destroyed by fire, the entire stock and machinery being lost. The loss is between \$40,000 and \$50,000, while the insurance will amount to about \$38,000. This mill had been operating twelve latch knitting machines on men's half hose and misses ribbed hose.

Greenville, S. C.—The Franklin Mills at Greer will not pay a dividend this year. The Simpsonville Cotton Mill and the Fountain Inn Manufacturing Company are in the Woodside Cotton Mills Company, recently formed, and will not pay a dividend just now. The Batesville, Pelham and Camperdown Mills are close corporations.

Atlanta, Ga.—F. W. Stone has been elected trustee of the Elizabeth Cotton Mills, manufacturers of cotton yarns, recently petitioned into bankruptcy, as noted, under a bond of \$10,000, and directed to file an inventory of the assets within 30 days. The receiver, Clyde L. King, was directed to turn over the assets of the mills to the trustee and file his report, and was then discharged.

South Bend, Ind.—The Stephenson underwear mills will spend \$25,000 in the construction of a new retaining wall, 240 feet long, with a four-foot base and tapering to a 22-inch top, in keeping with the other concrete work recently finished. A one-story brick power house will be erected with a water wheel of 125 horse power to replace two smaller wheels now in use.

Evansville, Ind.—The plant of the Evansville Woolen Mills Co. here, which, it was recently reported, would go into liquidation because of the tariff agitation and bad business due to the unsettled tariff and trade conditions, is shut down.

The Evansville Woolen Mills Co., was incorporated in 1888 with an authorized capital of \$150,000. The mill, which operates 12 sets of cards,

75 broad and 30 narrow looms and 8,000 spindles, manufactures fancy cassimers, cloakings and dress goods.

Durham, N. C.—The Durham Cotton Manufacturing Co., is overhauling all its spindles and accompanying machinery in order to put the entire equipment in the best possible condition for manufacturing gingham, chambray and chevilot. This enterprise is capitalized at \$450,000, and its plant includes 22,544 ring spindles, 820 narrow looms, etc., driven by steam power and employing about 450 persons.

Randleman, N. C.—Capt. J. E. Gilmer, of Winston-Salem has been elected Vice-President of the Deep River Mills, and with this it seems as though things are getting down to business. It will be remembered that Capt. Gilmer is the man who bid off the mills in the sales. Mr. Gilmer is a practical mill man and that he is one of the officers of the local concern, comes as good news to Randleman.

Gaston, N. C.—More than 30 Gaston county cotton mills will be closed for the next two weeks owing to the unfavorable condition of the yarn market, and well posted manufacturers stated July 1st that the mills may find it necessary to prolong the curtilment period to a month. The mills affected represent 80 per cent of the spindles of the county, and the only plants not in the agreement are those which manufacture their own yarns.

St. Louis, Mo.—A number of creditors of the Union Overall Manufacturing Co., have consented to accept 75 per cent cash in settlement of their claims against the estate from an adjustment company of this city, to whom the assets of the business have been turned over for the purpose of liquidation. It is said that the agency will receive five per cent of the 75 per cent settlement as compensation for its services in winding up the business.

Greenwood, S. C.—The Panola Cotton Mills' buildings are completed and a part of the machinery has already been installed. The spinning frames will be installed during August and the mill will probably begin operation in September. This is a 10,000 spindle mill for which the picking machinery is being furnished by the Pater & Johnston Machine Co. and the spinning by the Fales & Jenks Machine Co., of Pawtucket, R. I., the contracts were placed through J. H. Mayes, Southern Agent for these companies.

Evansville, Ind.—The Evansville Woolen Mills Co., it is reported, will go into liquidation because of the "tariff agitation" and "bad business due to the unsettled tariff and trade conditions." The company's assets

will aggregate several hundred thousand dollars. The liabilities are said to be large. The creditors are mostly foreign concerns. The company recently executed a mortgage for \$100,000 to insure a bond issue for the purpose of enlarging the plant.

Greenville, S. C.—The roof is now being placed on the buildings of the Westervelt Mills and the installation of machinery will be begun during the last of August. As already mentioned, this is a 50,000 spindle mill and is the first mill built in the South to make fine lawns and India linens from combed yarns. The picking and cards will be furnished by the Potter & Johnston Machine Co.; there will be thirty Nasmith combers; the drawing and roving machinery will be built by the Woonsocket Machine & Press Co.; the spinning by the Fales & Jenks Machine Co.; the spoolers by the Easton & Burnham Machine Co.; and the warpers by the T. C. Entwistle Co. These firms are all represented in the South by J. H. Mayes, Charlotte, N. C., through whom the contracts were placed.

Dividend Day.

July 1st is the day for the disbursement of dividends by many mills and the following are a few that have been noted:

At their regular meeting the directors of the Flint Manufacturing Company, Gastonia, N. C., declared their usual semi-annual dividend of 5 per cent.

The Newberry Cotton Mills, Newberry, S. C., declared a 5 per cent semi-annual dividend on a capital of \$500,000.

The Mollobon Manufacturing Company, Newberry, S. C., declared a 3 per cent semi-annual dividend on a capital of \$500,000.

The Glenn-Lowry Manufacturing Company, at Whitmore, S. C., declared a 3 1-2 per cent dividend on a capital of \$300,000.

The Union Bleachery & Finishing Company, Greenville, S. C., paid its first dividend, a 3 per cent dividend on a capital stock of \$400,000 as paid out, amounting to \$12,000.

The Carolina Mill, Greenville, S. C., a semi-annual dividend of 3 per cent on a capital stock of \$130,000, amounting to \$3,900.

The Mills Manufacturing Company, Greenville, S. C., paid its semi-annual dividend of 3 1-2 per cent on a capital stock of \$352,400, amounting to \$12,334.

The F. W. Poe Manufacturing Company, Greenville, S. C., paid a dividend of 4 per cent on a capital stock of \$1,000,000, amounting to \$40,000.

Cotton Mill Directory

OF THE SOUTH

PRICE \$1.00

WILL APPEAR AUGUST 1st, 1911

We will on August 1st, 1911, issue the first edition of the COTTON MILL DIRECTORY OF THE SOUTH.

This book will contain the most reliable information relative to Southern Cotton Mills and will contain a number of new features. It will be issued in pocket size

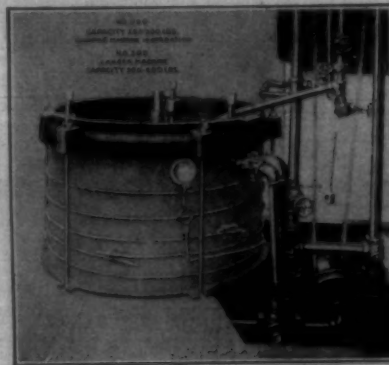
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RAW STOCK DYEING—The cotton goes to cards in as good condition as directly from bales. It is not rolled into balls and strings.

BLEACHING—Bleached and washed PERFECTLY CLEAN—FREE FROM CHLORIN OR ACID. 3 1/2 hours to batch. Is not pounded and twisted into practically waste.

SKEIN DYEING—No Boiling Out—No Tangles—Yarns are left smooth and in perfect condition for winding, knitting, etc.

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Atlantic City, N. J.

The Brandon Mill, Greenville, S. C., paid its usual semi-annual dividend of 3 per cent on a capital stock of \$900,000, amounting to \$27,000.

The American Spinning Company, Greenville, S. C., paid its usual semi-annual dividend. One-half per cent was paid on \$250,000 preferred stock, and 5 per cent on a common stock of \$350,000. The dividends amounted to \$8,750 and \$17,500 respectively, a total of \$26,250.

The Woodside Cotton Mill, Greenville, S. C., paid its usual semi-annual dividend of 3 1-2 per cent on preferred stock.

The Parker Cotton Mills, Greenville, S. C., paid its first dividend. The Parker Cotton Mills Company consists of the Apalache Mills of Arlington; Beaver Dam Mills, Edgefield; Olympia, Granby, Richland and Capital City Mills, Columbia; Greers Mfg. Co. and Victor Mills of Greers, and the Monaghan Mills of Greenville.

This company paid a quarterly dividend of 1 3-4 per cent on the guaranteed stock and a dividend of 1 1-2 per cent on the preferred stock, both amounting to \$102,000.

The Pelzer Mill, it is understood will pay a dividend of 5 per cent on a capital stock of \$1,000,000, amounting to \$50,000.

The Easley Cotton Mills, Easley, S. C., under the management of Mr. John M. Geer of Greenville paid its usual semi-annual dividend of 5 per cent on a capital stock of \$360,000, amounting to \$18,000.

The Piedmont Manufacturing Company, Piedmont, S. C., paid a quarterly dividend of 2 per cent on a capital stock of \$800,000, amounting to \$16,000.

The Spartan Mills, Spartanburg, S. C., paid out more money in dividends than any other company in the county, having sent out checks to the stockholders amounting to \$40,000, this being 4 per cent on \$1,000,000.

The Whitney Manufacturing Company, Whitney, S. C., paid a semi-annual dividend of 3 per cent on a capital stock of \$350,000.

Arcadia Mills, Arcadia, S. C., paid a semi-annual dividend of 3 1-2 per cent on its preferred stock of \$175,000.

Inman Cotton Mills, Inman, S. C., paid a semi-annual dividend of 3 1-2 per cent on its capital stock.

Lancaster Cotton Mills, Lancaster, S. C., Leroy Springs, president, and W. C. Thomson, secretary and treasurer paid semi-annual dividends as usual on both common and preferred stock.

Eureka Cotton Mill, Leroy Springs, president and W. C. Thomson secretary and treasurer, paid 4 per cent semi-annual dividend.

AMERICAN MOISTENING COMPANY

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J. F. PORTER, Southern Representative, Room 209, Rhodes Building, Marietta Street, ATLANTA, GEORGIA

Opening and Cleaning Cotton.

(Continued from Page 3.)

delicate fibres grown on earth to beat and break the fibres in order to open and clean them, as well as to increase the out-turn per hour. To save in labor and lose in working value of the product.

The question now arises: Is the cotton damaged in the present method of handling? Let us follow its course briefly from the cotton field to the opener and see if we can find any reason for the claim of damaged fibres.

We pick the cotton from the ripened boll with its fibres open and full of air, take it to the **Public Saw Gin**, run against time and there cut, break and mutilate the fibres as rapidly running saws can only accomplish, fill the lint cotton with the motes and broken shells from the seed and leaf trash, and broken fibre, and then being forced by commercial conditions, we press the lint cotton by forcing out the air from the hollow fibres, crimp, twist, bend and break them in the effort to put them into a commercial package. Then we cover the cotton with a substance foreign to its nature, jute bagging, a strand of which if picked with the cotton when opened in the mill and passing into the finishing room, spoils the whole piece, because it will not bleach and spots the finished material.

Again we continue its journey, after it has been exposed to the rains from above and mud underneath, as well as the knife and fingers of the samplers. It is sold and goes to the compress where in less than five seconds, under tons of pressure, the bale is squeezed to half its size and more air expelled from the fibres with a force bound to burst and damage them. From there it goes to the mill. This is a fair description of the condition of saw ginned cotton received by the mill.

It also is the reason why the mill has been compelled to further injure cotton by the use of the present processes of opening in order to bring it back from its matted and lifeless condition to a living mass, fed by air as its nature is, in order to carry out its usefulness.

It is true that the mill injure cotton and the beater in the picker room breaks and mutilates the fibres, just the extent of injury, we can hardly determine. The cotton mill through its superintendent or cotton expert may determine to some extent the condition of the cotton in the bale as to its gin cut and waste condition, much of it a guess, but the picker, cards and combers do not guess, they tell the truth, with the result that the mill superintendent never knows how much waste was caused by bad ginning and handling in the bale and what proportion was created in the first three operations in the mill. The blame is too often placed entirely upon the ginning operation.

The strange thing to me is that in all these years, from the beginning of cotton history, the same principle has been engaged, but the application of this principle has gradually grown from gentleness with no injury, to harshness and

great injury to the cotton fibres. To open and clean cotton you have been taught to break it apart. Beat it. Whip it with two or three winged steel knife running from 1,000 to 1,500 R. P. M. driven by many horsepower. Even the noise created by this machine fills one full of apprehension for the life of the delicate fibre it comes in contact with. Our ancestors in the cotton mill, would laugh at our foolishness, their whip in the opening and cleaning process did not hurt the cotton, it was a blessing, they gently spanked it, even with tears of tenderness in their eyes, for fear they would hurt this delicate product of nature. Their whip cured the ills and did not hurt the cotton but this powerful whip of today with its excessive cruel speed also cures the ills but kills the cotton.

The rapidly run beater, no matter what machine it is in, is wrong in principle. It can not help but damage cotton when run rapidly, and it is a question of very fine and even adjustment to prevent damage when run slowly. You want your beater to so open the cotton and clean it in its several beatings so as to give you a clean and even lap. But there is another way of cleaning and opening your cotton far better than the present method, and with absolutely no injury to the fibre. It will present your cotton to your pickers in a far better condition than you can now do and your laps can be made cleaner and as even as now and run your beaters at half their present speed, and that means less injury to your cotton and less horse power engaged.

It is a return to the right principle of "Batting" when cotton was gently whipped by willow rods to open and free it of dirt and trash, without injury to the fibre.

The C. O. B. is not a "cure all" for every cotton trouble. We would be foolish to claim this. However we know from practical daily use of this machine in the cotton mills, that some of the present day difficulties are overcome by its use. We give you a few:

First, The speeds of the beaters can be reduced 20 per cent or even more, on all staples of cotton. The reason for this, being its ability to clean and open the cotton, presenting it in a flake and fluffy condition so that the beaters do not have to strike against heavy lumps of matted cotton. It is more even and freer from sand and dirt.

Second, You will not have any "nibs" or curled fibres, caused by excessive beating. Your beaters will run much slower and you will not find "nibs" which the cards can not take out and shows in the face of the goods. A slowly run beater on cotton prepared by the C. O. B. cannot produce "nibs" curled or broken fibre.

Third, The cotton being opened and cleaned will save the fibre and likewise reduce the harm and wear upon the beaters edge.

Fourth, The cotton after being treated by the C. O. B. is more easily handled by the picking process, and by reason of this, a greater evenness of numbers can be continued throughout the mill.

GRINNELL WILLIS & COMPANY

44-46 Leonard Street, New York

SELLING AGENTS

BROWN AND BLEACHED COTTON GOODS FOR HOME EXPORT MARKETS

Fifth, Greater capacity than any other opener process, and cleaner results.

We are about to return to the first principle in opening and cleaning cotton, the object being to remove the largest amount of dirt, trash and foreign matter from the cotton while it is being opened with no injury whatever to the fibres. In the present day system you are forced to open it by beating the cotton to death in order to extract the foreign matter, dirt, leaf, motes, etc., and then many mills permit the cotton to rest in bins for days to age or cure by the air inflating the pressed and crushed fibres.

The Pneumatic C. O. B. machine, taking its name from the cleaning, opening and blooming of cotton, is simply a steel box, eight feet long, seven feet high and 20 inches deep, having seven chambers with dust screens at the end of each chamber to catch the dirt, motes and trash.

Double doors are provided at both ends of the machine. The inside dust door is held in place by a locking lever extending through the outside end door. While the machine is in operation the dust boxes can be emptied by releasing the locking lever and the dust blown to the bottom of the machine into any receptacle provided for it or to a dust pipe. The operation of the machine is as follows: The cotton entering the lower chamber strikes against a series of round, smooth steel pins, extending upward at any angle desired and two feet from this set there is another set extending downward, there being three sets of pins to each chamber.

The pins catch the cotton as it is blown from the fan, holding it momentarily while the air blows through it, then slips from the first set of pins and is caught by the next set and passing on strikes the dust screen, and then returns through the next chamber with its three set of pins and back and forth, always striking the dust screens until it passes out of the top chamber, cleaned, opened and with the Bloom upon it.

The steel pins by force of contact against the cotton, spring back and forth, creating a slight whipping motion against the cotton and thereby separating the fibres and causing the dirt and trash to fall out and pass into the dust boxes.

The chambers, seven in number, grow larger from bottom to top, from eight inches high at the bottom to fourteen inches at the top. As the cotton is opened, becoming more fluffy in its progress, the enlarged chambers give more room for expansion and thereby the cotton is more effectively cleaned. The cotton passes through fifty feet of cleaning space, occupying but eight feet of floor space in length, by two feet deep at the base and seven feet high.

It is built of steel, no wood whatever, having automatic sprinklers and is therefore fire proof. You may say it is simply a cleaning trunk. It is much more than that. It will open compressed cotton of any density, Egyptian, India or American, far better than any Bale Breaker or cotton opener and at same time clean and age your cotton.

If you prefer to heat your cotton it can be used as a cleaning trunk with far better results than any other trunk ever made, and it is fire proof.

There are no beaters, no working parts in the machine. Its foundation principle is the cleaning of cotton by air in combination with the gentle whip as taught us by our ancestors.

It is the most economical method of cleaning and opening and blooming of cotton ever introduced to the cotton mill world.

An Automatic Feed Box to receive your mixing, a No. 6 Fan and then the C. O. B. machine and the cotton is prepared far better than by any other means. Its capacity is 1,000 pounds per hour.

M. G. STONE

(Continued from Page 8.)

pleasure to meet them and no one can feel prouder of their success than I am.

While not one of the originators of the Southern Textile Association, I have been extremely gratified to see its beneficial affects on the members by making them acquainted with each other and in so many ways helping them to get new ideas and a broader and more considerate regard for each others opinion. If the association does no more than it has done it will have done a great work and too much credit cannot be given for the efforts of the editors of our Southern textile journals.

I appreciate the honor that has been conferred upon me and pledge my best efforts for a continuation of the growth and influence of the Southern Textile Association.

M. G. STONE.

Couldn't See It.

The mother of a girl baby, herself named Rachel, told her husband that she was tired of the good old names borne by most of the feminine members of the family, and she would like to give the little girl a name entirely different. She wrote on a slip of paper, "Eugenie," and asked her husband if he didn't think that was a pretty one.

The father studied the name for a moment and then said:

"Well, call her Yousheenie, but I don't see vat you gain by it."—Ex.

Utilization of Waste.

Continued from page 4

Once I was cornered by a German waste manufacturer, with the question, "What are your methods for utilizing cotton waste?" I had to confess that our methods are to get rid of it as a burden. We have several manufacturing concerns who manufacture cotton waste into marketable articles. They are making a success of it but they don't utilize one-tenth of the total material at their disposal. A well known article made of cotton waste is the teamsters glove, of which I bought a pair for ten cents and the manufacturer of which introduced with this article a very desirable product. Another article which is converted from cotton waste in the States today is a soft twisted yarn utilized for cheap fleeced underwear. It is a success too. The wiping mops are well known to us. That is about all the American waste manufacturer is bringing on the market. Now let us see what the English and the German manufacturer is doing with the cotton waste. Here I have a sample taken from a cheap curtain, the warp of which is a low grade Indian cotton and the filling cotton waste. This curtain could be produced in the United States cheap enough to make it popular. Every one of us is familiar with the law of supply and demand, according to which the demand for a certain article increases in proportion to the decrease of cost of production. In our industrial as well as rural district, 90 per cent of the population has a limited pocket-book. There are many millions who have an artistic sense and would appreciate a portier or couch cover, but they cannot afford the price today. If I could produce a couch cover or a table cover at 50 cents apiece I know I could sell many, and how many are here today who are paying a certain price for a certain article who would not be glad to pay less for it if an opportunity was given them. Another interesting article which can be used for cheap house decoration purposes, has a filling of the lowest grade of waste, which has been bleached and filled with China clay to such an extent that it makes my hands white, is extensively used in Italy. With some alteration a very cheap but still serviceable bed cover could be easily made and find a ready market in the United States. Another bed cover of a honey-combed texture would find a ready market. Flannels with cotton waste filling, if properly manufactured could be made sanitary as well as serviceable. Carpets are to a great extent manufactured of cotton waste, then printed and sold for a song.

The opportunities today for cotton waste manufacturing are almost unlimited. It would not be a venture of a questionable success. We have examples before us of how a big industry has been built up in Germany and England from cotton waste, bringing returns which make the industry one of the most desirable. A great objection toward articles manufactured of cotton waste has been that it has a disagreeable odor and is unsanitary,

This objection is today overcome, as when the waste is dyed, bleached or handled with a disinfectant solution, cotton waste is no more unsanitary than a shoddy which goes through the manufacturing process. German cotton waste is also used for apparel fabric, having a finish like a woolen fabric. This article could not be considered for the American market as we are the best dressed nation in the world and there is no necessity for the introduction of such articles.

As to the machinery required for spinning cotton waste, the woolen system has been adopted. The process of manufacturing is a simple one and is considerably shorter than the ordinary cotton manufacture. The machines are made by several German and English manufacturers, which may differ in details but are identical in construction. Usually cotton waste is assorted as to the grade, and thread waste is put through the tearing or popularly known, Garnetting machine. This machine is built with from one to nine drums, according to the material to be opened. The operation consists of exposing the threads to the action of lags, which open the thread and free the fibres. For regular filling waste up to No. 30 a garnetting machine with five drums is adopted. For slasher waste or sized waste a machine with from five to seven drums is desirable. A good garnetting machine never tears the fibre but opens the thread gradually, the delivered product being a soft wadding. The production of such a machine is very large. A well constructed machine with five drums will produce about 1,200 pounds, working ten hours, of yarn No. 30.

Sweeping and mote waste is generally cleaned in an ordinary drum cleaner and run through a Crighton opener which opens the matted fibres just like ordinary cotton. The Crighton openers are very often built with a scutcher or beater combination. The different grades of waste are generally mixed according to the number to be spun. Low grade waste such as motes, oily sweepings and card sweeps are seldom spun over No. 4. High grade waste such as weft cups, olive and self-actor waste, is spun sometimes as high as No. 10. The mixing of the different grades is done on a machine known as the Wolf which has a carding arrangement with heavy clothing and which machine has proven to be satisfactory not only in mixing the different grades but also cleaning the fibres of the impurities which escape the action of the opener and scutcher. The carding wolf or wiley delivers the material in the bulk, which is transmitted to the carding engines. This process for low grade yarns up to No. 4 is omitted. The carding is done on the so-called two set cards with the single doffer system. The material is dumped into the automatic feeder which delivers the material in even quantity into the first card which is generally built with a set of lickerin rollers and six sets of worker and stripper rollers over the main drum. The theory of waste carding is absolutely identical with wool carding. The lap is divid-

ed through the actions of rubbing aprons into shivers which are wound on a roller and are ready for the spinning process. The production of a card set varies as to the number produced. For No. 1 yarn for instance a set will produce about 900 pounds in ten hours. For No. 8 the production is about 450 pounds. The next process is the spinning.

For spinning waste yarns several systems have been adopted. Many manufacturers use even today the so-called flyer system, but this method is today out of date and is not efficient. The cup system is very advisable for numbers not higher than No. 4. Cup spinning is done in the following way. The sliver is placed in a circular disk which has a cover and an outlet for the sliver. This disk will revolve and give the yarn the necessary twist. The twisted yarn is wound on an ordinary shuttle bobbin, according to the cup quilling method, which is familiar to us all. This has an advantage, as coarse yarn of that kind is frequently used as a filling in wiping cloths and cheap carpets and an operation is saved through this method. The production of these machines is quite high. The average production of one spindle is about 11 pounds. A certain French concern attempted a few years ago to build a ring spinning machine suitable for waste yarns. This system consisted of a series of drawing rollers similar to the regular ring spinning machine but instead of being placed in a frame horizontally, the rollers were placed at an angle of about 30 degrees. The last top roll was provided with a nozzle which gave the yarn an extra draft to equalize the unevenness caused by the short draft. Today this system is in need of many improvements and therefore its practicability is questioned by the mill men. The most advisable and in fact the only satisfactory method of spinning waste yarns higher than No. 4, is the self-actor system. This self-actor is absolutely identical with the woolen self-actor and therefore the description of same is not necessary.

This is the general outline of cotton waste spinning. My opinion is that the proper utilization of cotton waste by the American cotton manufacturers would be beneficial to both the producer and the consumer. The manufacturer would obtain a higher figure for his waste, for which reason he would handle it himself more economically. The great population again would enjoy the benefits of cheap and serviceable articles which would be within the means of even the poorest. The present question is only a certain "modus vivendi." (How to do it.) Certain large cotton manufacturers in the New England States are on the right road. They have established several cotton waste utilization concerns which no doubt will prove successful in obtaining a better price for the waste.

For the Southern manufacturers an organization of this kind, but more intensive, would be the right thing. They have the cotton waste; they have the market within their own limits, and it would only be a

matter of co-operation to realize a desirable profit from their waste products. The number of articles which could be manufactured from the waste are numerous. The field is almost unlimited and sooner or later it will be realized that the field is large enough to assure a success of such undertaking. I say it; sooner or later, so why not sooner?

Condition Report.

Washington, D. C., July 3.—The condition of the cotton crop on June 25th was 88.2 per cent of normal, compared with 87.8 per cent on May 25th, 1911; 60.7 per cent on June 25th, 1910; 74.5 per cent on 1909 and 80.0 per cent as the average condition on June 25th during the past 10 years according to the department of agriculture's estimate announced at noon.

Comparisons of conditions by states follows:

State.	June 25-10.	Yr. Av.
North Carolina...	.29	80
North Carolina...	.80	20
South Carolina...	.84	80
Georgia...	.94	80
Florida...	.96	85
Alabama...	.93	79
Mississippi...	.87	79
Louisiana...	.89	78
Texas...	.85	80
Arkansas...	.80	91
Tennessee...	.87	84
Missouri...	.90	84
Oklahoma...	.87	81

World's Visible Supply of American Cotton.

June 30th, 1911...	1,335,331
Previous week...	1,477,357
Last year...	1,386,515

Weekly Movement.

New ork, June 30.—The following statistics on the movement of cotton for the week ending June 30 were compiled by the New York Cotton Exchange.

Port receipts—This year, 10,502; last year, 25,343.

Overland to mills and Canada—This year, 5,577; last year, 12,282.

Southern mill takings (estimated)—This year, 20,000; last year, 10,000.

Loss of stock in interior towns—This year, 10,345; last year, 21,992.

Brought into sight for the week—This year, 25,734; last year, 25,633.

Total Crop Movement.

Port receipts—This year, 8,452,431; last year, 7,180,431.

Overland to mills and Canada—This year, 934,033; last year, 813,457.

Southern mill takings (estimated)—This year, 2,130,000; last year, 2,090,000.

Stock at interior towns in excess of September 1—This year, 72,630; last year, 67,546.

Brought into sight thus far for season—This year, 11,589,094; last year, 10,151,434.

"How is it that you want a raise?" asked the foreman.

"Why, I've been and got married," said the man.

"Well," replied the foreman, "I'm sorry for you, I'm sure, but I can't help you. I'm only responsible for accidents that happen at the factory."—Exchange.

Personal Items

Continued from page 11

A. F. Northcutt has resigned as overseer of weaving at Pineville, N. C.

C. N. Wallace has resigned as secretary of the Commonwealth Mills, Durham, N. C.

J. W. Bruner, secretary of the Oconee Mill, Walhalla, S. C. is visiting at Franklin, N. C.

R. H. Layton now has charge of both carding and spinning at Chadwick-Hoskins Mill No. 3.

Carl Phillips, overseer of weaving at the Pilot Mills, Raleigh, N. C., has been visiting at Concord, N. C.

R. K. McCuen, Greenville, S. C., is spending this week camping with his family at Buckle Haynie Shoals, S. C.

W. G. Reynolds has been transferred from overseer of spinning at Chadwick-Hoskins mill No. 3 to a similar position at mill No. 1.

B. F. S. Austin, superintendent of the Ozark Mills, Gastonia, N. C., who has been confined to the City Hospital for some days as the result of injuries sustained in an auto accident, is able to be down on the streets some. He is still at the hospital and has to use crutches to get about but hopes to be able to return to his home within the next few days.

Among Those Present.

Continued from page 9

Melhuish, F. D., with Harris Weaver Co., Atlanta, Ga.
 Merchant, J. E., Cloth Room, Capital City, Columbia, S. C.
 Meeks, J. H., Dyer, Brogon, Anderson, S. C.
 Merritt, J. H., Supt., Pelzer, S. C.
 Milnow, Albert, Ind. Engineer, Southern Power Co., Charlotte, N. C.
 Miller, A. B., Carding, Lockhart, S. C.
 Moore, W. S., Spinning, Henrietta, N. C.
 Moore, H. C., Spinning and Winding, Waverley, Laurinburg, S. C.
 Moreland, J. T., Cero Specialty Co., Spartanburg, S. C.
 Montjoy, C. L., Spinning, Gray Mill, Woodruff, S. C.
 Neal, T. L., Supt., Cherokee, S. C.
 Newman, H. Lee, Carding and Spinning, Ella Mill, Shelby, N. C.
 Norris, W. S., Carding and Spinning, Millen, Ga.
 Norris, O. A., Carding and Spinning, Mineola, Gibsonville, N. C.
 North, Frank G., with Barbour-Coleman Co., Atlanta, Ga.
 Osteen, F. M., Supt., Poe Mill, Greenville, S. C.
 Pace, J. A., Carding, Seneca, S. C.
 Pettit, C. W., Spinning, Poe, Greenville, S. C.
 Porter, J. F., American Moistening Co., Atlanta, Ga.
 Putnam, T. A., Supt., Abbeville, S. C.
 Putnam, A. C., Spinning, Mills Mfg. Co., Greenville, S. C.

Roberts, J. W., Supt., Vardry, Greenville, S. C.
 Redd, W. E., Supt., Calhoun Falls, S. C.
 Redd, L. W., Spinning, Calhoun Falls, S. C.
 Reynolds, W. G., Spinning, Calvine Mills, Charlotte, N. C.
 Rhea, S. B., Master Mechanic, Monaghan, Greenville, S. C.
 Riddle, C. R., Weaving, Granby Mills, Columbia, S. C.
 Roddy, A. A., Spinning, Carolina, Greenville, S. C.
 Ross, J. P., Master Mechanic, Brandon, Greenville, S. C.
 Scruggs, R. P., Jr., Supt., Cleghorn, Rutherfordton, N. C.
 Scruggs, J. L., Carding and Spinning, Great Falls, S. C.
 Sherrard, W. M., Supt., Alice Mill, Easley, S. C.
 Simpson, G. G., Editor Textile Manufacturer, Charlotte, N. C.
 Sizemore, T. A., Supt., Am. Spin. Co., Greenville, S. C.
 Smith, S. Hampton, Associate Editor Mill News, Charlotte, N. C.
 Spake, J. O., Weaving, Poe Mill, Greenville, S. C.
 Spencer, J. H., Mgr., Greenville Office, Barbour Coleman Co., Greenville, S. C.
 Story, W. T., Spinning, Ninety-Six, S. C.
 Straub, H. H., Mgr. Wm. C. Robinson Sons & Co., Charlotte, N. C.
 Sweeney, R. P., Supt., Fairmont Mfg. Co., Fairmont, S. C.
 Taylor, W. C., Carding, Watts Mill, Laurens, S. C.
 Taylor, C. D., Nat. Ring Trav. Co., Gaffney, S. C.
 Thomas, J. C., Spinning, Watts Mill, Laurens, S. C.
 Thomas, S. C., Seydell Co., Spartanburg, S. C.
 Thomas, S. A., Cloth Room, Pacolet Mill, Trough, S. C.
 Tice, J. E., with Arnold Hoffman Co., Greenville, S. C.
 Tice, J. D., Supt., Chiquola Mill, Honea Path, S. C.
 Timmerman, E., Carding Westminster, S. C.
 Tribble, F. V., with Petroleum Oil Co., Anderson, S. C.
 Veal, W. W., Weaving, Martinsville, Va.
 Voss, C. G., Carding, Alice Mill, Easley, S. C.
 Warner, H. W., Supt., Louise Mills, Charlotte, N. C.
 Watson, C. L., Weaving, Brandon, Greenville, S. C.
 Wallace, T. B., Supt., Dunbar Mill, Greenville, S. C.
 Webber, Ralph, with A. H. Washburn, Atlanta, Ga.
 West, D. E., Supt., Fountain Inn, S. C.
 West, J. A., Carolina Supply Co., Greenville, S. C.
 Whitehead, O. J., Master Mechanic, Commerce, Ga.
 Whitten, Calvin, Overseer Cloth Room, Spartanburg, S. C.
 Wiggins, Chas., Carding, Woodruff, S. C.
 Williams, H. P., Spinning, Commerce, Ga.
 Williams, R. H., Spinning, Woodruff, S. C.
 Williams, F. D., Supt., Gluck Mill, Anderson, S. C.
 Woodside, R. R., Weaving, Victoria, Greer, S. C.
 Wray, Rush T., with J. H. Hilling-

ton & Co., Charlotte, N. C.
 Wright, I. W., Supt., Calumet Mfg. Co., Liberty, S. C.

The above are the old members who attended the meeting. List of new members will be published next week.

Accident at Lafayette.

Lee Sinford, an employee of the Union Mill, Lafayette, Ga., had his hand caught in the machinery Tuesday, of last week, two middle fingers being mashed off at the first joint.

Accident at Lindale.

W. E. Campbell is suffering painful injuries from a fall of twelve feet from a scaffold. He is one of the Massachusetts Mill carpenters. This is the second time Mr. Campbell has fallen. Fortunately no serious injuries were sustained.

Annual Picnic at Greensboro.

The annual picnic of the White Oak Proximity and Revolution Mills of Greensboro, N. C., was held in its usual form and greatly enjoyed by the employees of these mills.

We regret that lack of space make it necessary for us to postpone until next week the account of the picnic.

New Representative of Universal Winding Co.

W. P. Hazlewood has resigned his position as machinery salesman for Stuart Cramer and accepted the position of Southern representative of the Universal Winding Co., with headquarters at Charlotte.

Mr. Hazlewood was formerly with the Universal Winding Co., and is widely and favorably known.

Electrocuted at Columbia Game.

Terrell Harrison, a mill worker of Columbia, S. C., was electrocuted in sight of two thousand baseball fans. The man was caught in the wires of an electric light pole as he and a companion watched the Charleston-Columbia baseball game. The horrifying spectacle halted the game.

No definite statement of the occurrence is obtainable, although it is believed that Harrison lost his footing and grabbed for a wire, thus causing his death. Three times he swung in the air and then his body stiffened.

Hosiery Meeting.

A meeting of hosiery manufacturers from North Carolina, Virginia and Tennessee, known as the Carolinas and Virginia Hosiery Association, was held last Saturday, June 24, at the Monticello Hotel, Norfolk, Va.

G. McL. Carr, of the Durham, N. C., Hosiery Mills, resigned as president, and P. H. Williams, of the Elizabeth City, N. C., Hosiery Co., was elected in his place. Other officers are Vice-President H. A. V. Parker, of the Parker Hosiery Mill & Dye Works, Portsmouth, Va., and Secretary-Treasurer, Ernest Martin of the Martin Hosiery Mills, Raleigh, N. C.

Celebrated the Fourth at Drayton Mills.

The people of Drayton Mill village celebrated July 4 in grand style. There was an all day picnic, music by a brass band, speeches, a good dinner and all kinds of amusements.

Governor Bleaase attended the picnic and at 3 o'clock in the afternoon he delivered a speech in the park immediately in front of the mill.

Other features of the day were a hobble skirt race, tub race, climbing the greasy pole, chasing a greasy pig (open to everybody) egg race and breaking the jug.

Superintendent C. E. Bean and the committee in charge of the arrangements and amusement features have been at work for several days mapping out a program. They have completed all the details and every one who attended had a jolly good time.

Columbia, S. C.—The state board of equalization announced the following reduction on textile property for taxation. The following reduction of cotton mills were made:

Abbeville cotton mill	\$ 23,695
Calhoun mills	25,000
G. W. Green knitting mills	2,167
Royal Bag and Yarn Mfg. Co.	59,700
Hamrick Cotton Mills	12,500
Beaver Dam Mills	28,995
Piedmont Mfg. Co.	50,000
Clinton Cotton Mills	50,000
Glenn Lowry Mfg. Co.	25,000
Octoraro Mills	7,500
D. E. Converse Co.	25,000
Crescent Mfg. Co.	1,250
Whitney Mfg. Co.	50,000
Union Cotton Mills	125,000
York Cotton Mills	2,500

Total\$488,307

Total amount of increase at meeting June 13, \$1,303,308; less reduction at meeting, June 27, \$488,307, in creased assessment of cotton mills over 1910, \$815,001.

Family of Thirteen.

Horace Erwin returned to Lindale from a pleasant visit to his parents at Fort Payne, Ala. He is the efficient overseer of the cloth room and has in the same room with him, three other brothers, Luther, Oscar and Otis. Four other brothers are at home with three sisters and both parents. In the family of thirteen, there has never been a death. Who says that the number thirteen is unlucky? It is an exceptionally fine family.—Ga. Free Lance.

Went Him One Better.

Andrew's grandmother had been telling him Bible stories, his favorite being that of Daniel in the lion's den. At the age of four he was taken to a circus for the first time. When the lion-tamer put his head into the lion's mouth Andrew's excitement knew no bounds.

Jumping up and down he gleefully screamed: "Gee, that knocks the spots off Daniel!"—Exchange.

The Weave Room.

Continued from page 5

and cause an excessive amount of warp breakage, of unnecessary friction, of wear and tear and numerous other faults but loose enough to run well and no to offer that unnecessary resistance to the weaver when piecing up broken ends.

The loom reeds should be of a depth necessary to permit the proper opening of the shed without coming in contact with the upper edge of reed when shed is at its greatest opening. However, the shed should be open just enough to permit a free and easy passage of the shuttle in its flight from side to side and the lower half of the shed should just clear the race plate. This will prevent any unnecessary chafing of the warp and shuttle. Did it ever occur to you that a fixer in carelessly setting up the loom could increase the power required to run the loom as much as thirty-three and one-third per cent. to fifty per cent? Let us see for a moment. The fixer will hang his harness so tight that it will continuously produce a great amount of friction and, I have seen them so hung that you could hardly turn the loom with your hand. This necessarily makes the loom run bad, he will then add more power to the shuttle and tighten up on his binders to prevent the shuttle bounding in the box at the other end of loom. It is too well known for me to even mention the results as to breakage and wear and tear of the loom, but I want to emphasize the waste in power. For instance, we take a room of one thousand looms and assume that it will require one-quarter to one-third horse power per loom. In the first place, take the loom of one-quarter horse power and add friction till it requires one-third horse power, this will give an increase of eighty-three horse power in the room. In the second case add friction to the one-third horse power loom till it requires one-half horse power and then you have an increase of one hundred and sixty-seven horse power. Now, suppose it cost twenty dollars per horse power per year, the first room would be wasting sixteen hundred and sixty dollars per year and the second room would be wasting thirty-three hundred and forty dollars per year. Besides this loss of power there is that of thread waste which is still greater, caused by the excessive amount of power from the picker stick one the one hand and the rigid stop of shuttle on the other. Especially is this true where soft yarn is used. This item of waste is one of very much importance in any event and exceedingly so when made from high priced cotton. The majority of the waste in the weave room is fling yarn and in nearly every case can be reduced to a minimum. It is therefore necessary for us to keep diligent watch over this great leak and stop it as we will then have accomplished one of the most important things in connection with the successful running of the weave room.

Another item of waste is where the fixers cut out the warps before

the beams are entirely empty, that is, they leave some yarn on the beams that could be woven into cloth. Closely associated with this waste proposition should also be included that of cleanliness. There is no question in my mind that where the room is kept lean it is more sanitary and at the same time has a tendency toward bringing out that better quality in the help. Not only will the help feel better and work to more advantage in a clean room but we get a better production and a decided improvement in the quality of the material produced. This is true not only in a colored weave room where the different colors of lint or fly will get into the goods and cause seconds, but in any unclean room this fly will get into the warp between the harness and reed and cause what is known as floats in the cloth, thereby producing more seconds. Again, this waste sometimes becomes saturated with oil and when it touches the cloth it produces a very serious defect. It is therefore necessary, from a financial standpoint as well as from any other point of view, to watch after the cleanliness of the room. The overseer cannot do all this alone but with the proper training and co-operation of his fixers he can soon get his weavers lined up in such manner that it will no longer be a burden to run his room but a pleasure to note the perfect harmony and enthusiasm which he has brought to bear among his help. I will also state that we are in the midst of a crisis which should bring forth every virtue associated with the weaving industry, among which is the changing to finer grades of goods as now being done by some of our Southern mills. It would not be amiss to state however that the manufactures of the South will not go on the finer grades of goods any faster than the weavers are qualified to look after their business. We so often see goods labelled "Made in Germany," "Made in England," "Made in France," and very frequently this label sells the goods. Undoubtedly there is a cause for this state of affairs. It is for lack of careful preparation on the part of those who are responsible for the weaving industry of the South and it is within our reach to stamp out this state of affairs and so fortify the industry, as it were, that no such branded goods will have any more effect upon our industry than the waves of the Atlantic upon the solid rocks of Gibraltar. There is too much pride and ambition in the South for such affairs to exist and the best way to stop it is to demonstrate to our manufacturers that they have at hand the necessary skill for the better classes of goods. It requires both time and study to accomplish this but those of us who put forth the necessary efforts in this line will be well paid, for the time is not far distant when the South will be competing with the world in the manufacture of fine goods.

The price of cotton and other conditions have so changed as to necessitate many of the Southern

Continued on page 18

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Mill Village Improvement.

Continued from page 7

follow these same methods.

This means first of all, deep plowing and the use of all available manure, for without the well prepared and fertile seed bed we cannot expect the best growth. And so many of our people need to learn to depend on something other than the signs of the Zodiac or the phases of the moon in planting their crops.

You have probably heard of the successful farmer who was asked by a less fortunate neighbor, in what sign of the moon he planted his potatoes. He answered that he had a better yield if he planted in the soil when the conditions were right, than he did from planting in the signs of the moon. This is a lesson that good many of our people need to learn.

The various plantings of the garden fall into three groups, early, mid-season and late. The early plantings should be in the ground as soon as the weather will permit. Even if there is danger of damage from late frost it is well to take some risk of having to replant in order that the garden may be yielding food for the family at the earliest date. The staple crop is held back until the season is fully settled and should begin to ripen by the time the first planting is used even before the first crop is exhausted the rotation crop can be placed between these rows so that an unbroken succession of crops will be growing upon the ground throughout the year. It will be found where this system is faithfully carried out that the ordinary family will not need all the vegetables as they are produced, but will have some to can for future use.

Now all this supply of food coming from the garden means a substantial benefit to the operator and his family. It means a saving of money, and a dollar saved from the grocer's bill is as good as one added to the pay envelope. It will add just as much to the bank account, buy just as many comforts, and pay for as much pleasure and recreation as if there had been an equal advance in wages. Then there are the advantages of a more wholesome diet and the exercise in the open air.

We have been working on this experiment at Monaghan for only one-fourth of a year, and that is not long enough to give final results, but there is every indication of its success. There is plenty of encouragement in the interests aroused in the community by the hope of better gardens, in the good-natured rivalry and the generous spirit manifested one toward another.

We have a Gardener's Club of nearly 200, which holds its weekly meetings, and these people show their interest by increased care devoted to their yards and gardens. They give careful attention to the instructions and faithfully carry out the suggestions as to methods of cultivation and ways of combating diseases.

The Tomato Club is composed of 44 boys and 26 girls, who have great pride and enthusiasm in their

work, and their 70 gardens each with its 24 plants, make a showing for neatness that is almost above criticism. In both of these clubs if a member is sick there are plenty who will volunteer to care for his ground. You can see from this that we are getting the right response.

We come now as to what I regard as the most important subject. I wish to present. It relates to the way in which we are going to profit by what we are learning from this year's experience. We must have some way by which the results of this trial can be extended from year to year, and transferred from place to place.

For this end there is no agency so good as that of the public schools. I can imagine no better purpose to which the schools in a mill village, or anywhere else, could be devoted, than to the advancement of the intelligence of the people along practical lines. Youth is the proper time for training in these essential kinds of skill, for the formation of habits of industry and thrift, and the time to inspire with the ambition to make one's self a worthy member of the community.

There is no reason why the youngest school child cannot be taught something of the proper way in which to plant seeds and to distinguish one kind from another. Before their schooldays are over, they should know how to prepare the soil, what and when to plant, the methods of setting out the ordinary vegetables and flowers, and something of how best to promote growth and combat disease. The child naturally delights in all forms of activities, in every contact and experience with nature, and in the exercise of his powers. He wants to be "doing things." He tires of the humdrum of the school room, but if he were studying about things he can see with his own eyes, hold in his own hands, and raise in his own garden, the whole process of education would take on a new meaning.

The school garden would be an essential part of this program, and the lessons learned there would be quickly reflected in the improved methods of cultivation about the village homes. One of the best ways of reaching the parents is by the training of their children. It is not always possible to make radical changes in the ideas and habits of persons of mature years, and if what they learned in childhood is wrong it may never be corrected. But this only proves that if the child is started right there is little danger of falling into error during the latter years of his life. If we start with the school child, we have practically a clean slate upon which we may write anything that we wish.

I will add in closing, and in this I am sure those in authority would concur that anyone interested in this phase of mill village improvement will be welcome to visit the gardens at Monaghan and see for themselves the present status of the work. We do not claim any approach to perfection, but in this short time you will not expect that. Our people have had unusual dif-

ficulties to contend with during the present season owing to unfavorable weather conditions, but these have tested rather than diminished their enthusiasm. Every one who knows human nature realizes that a whole community cannot be marched forward as an army of progress in military step and with solid front. If a reasonable per cent are willing to join the ranks on the first call we must not be discouraged if others wait.

The instructor in this as in any other kinds of improvement work, must be in sympathy with his calling. He must preserve upon all occasions a friendly attitude, friendly and sincere; he too will have to prepare his soil, plant his seed, and with patience and hard work bring his enterprise to its harvest. If anyone has misgivings as to the response of a mill village to this kind of endeavor he needs to study at first hand the zeal of some of our people for better things, so if there be a "doubting Thomas" among you let him bring his doubts to Monaghan.

The Construction and Operation of a Cotton Card.

Continued from page 6

der is deposited on one inch on the doffer.

This relatively slow speed of doffer, together with the fact that the wire teeth of the doffer are pointing upwards, renders it an easy matter to transfer fibres from cylinder to doffer.

In order to properly accomplish the work required by the doffer it must be correctly adjusted. If set too close, there would be a tendency to remove short fibres and neps from cylinder, while if set too far away, a cloudy web would result, due to the fact that the doffer would take fibres from the cylinder unevenly.

The next operation is to remove the cotton from the doffer and this is done by the doffer comb, which has about 1,700 strokes per minute. From the doffer, the web of cotton is drawn by calender rolls through a trumpet, which effectually condenses it into a sliver, the fibres of which are cleaned, but show no parallel order whatever.

Referring now to the necessary operations to keep card in good working condition. First may be mentioned good oiling, the fast motions twice per day and all other motions Monday and Thursday.

Second is stripping, which should be done often enough to prevent short fibres from re-entering good cotton, three to four times per day, according to the stock being used and the quality of work desired. Care should be taken not to allow the teeth of stripping roll to touch the foundation of the fillet.

Third is the most important one of grinding. It is evident that upon this depends the efficiency of the card and for this reason the work should be in the hands of a man more than ordinarily careful. If grinding is neglected, the wire teeth lose their grip on the fibres and consequently will produce a sliver that is neppy. Grinding light every two or three weeks is preferable

to heavy grinding at longer intervals, because wire is kept in better condition and there is not the same danger of destroying the temper of the wire which is the result of heavy grinding.

Referring to the grinding of flats it may be said that the best way is to grind them as near as possible in their working position and not on top of card as is sometimes done. The most important point in grinding flats is to preserve the heel and toe formation, as upon this depends the efficiency of the card.

To increase the production of the card without changing the weight of sliver, we can change doffer speed change gear. This will drive only doffer and feed roll faster and to counteract this, it may be necessary to increase speed of flats to get the same degree of cleanliness as before.

Finally, as a suggestion why so many cards do not produce sliver of uniform quality with similar settings it may be because not enough attention is paid to keeping all parts parallel and level, particularly feed roll, lick, cylinder and doffer.

In this article not many definite or specific settings have been given as I recognize the fact that all card men have settings that give good results on their particular line of work.

I also feel that I cannot allow this opportunity to pass without saying to this body of men that the Textile Department of the Clemson Agricultural & Mechanical college, stands ready and willing at all times to give all the assistance possible, the only thing necessary is to "ask and ye shall receive," if it is within our power to help.

THE WEAVE ROOM

Continued from page 17

mills changing to finer classes of goods. Shall we therefore neglect this opportunity to better our conditions and allow foreigners to take our places at the head of this great industry? No, verily; we must study the subject of weaving from every standpoint, we must learn how to analyze a fabric so that we can reproduce same, we must then know the practical side of weaving so that what the matter is put up to us we can prove to our manufacturers that we have as skilled and intelligent weavers in the South as there is in any section of any country.

"You don't get along" very well with your mother-in-law, I hear," said a friend to a young husband.

"No, I don't," answered the bridegroom. "Nobody can. Even the food she eats doesn't agree with her. When she comes into the room everybody shuts up. The other day she got into a folding bed and the bed shut up."—Exchange.

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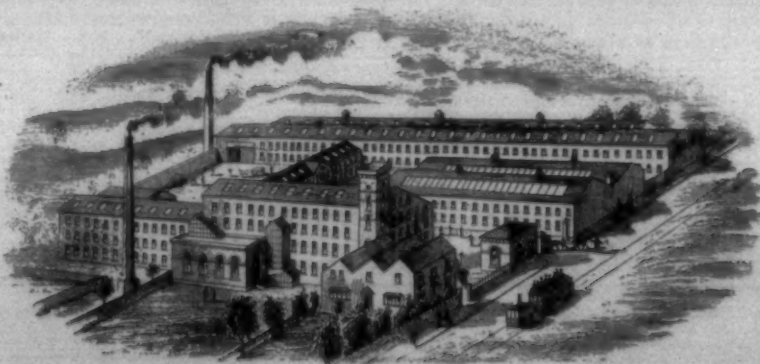
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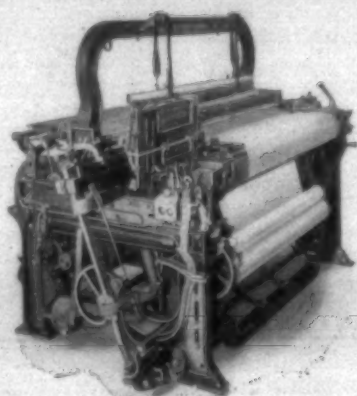
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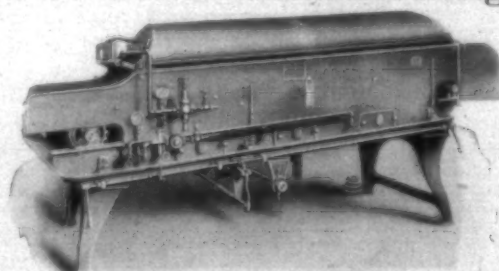
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